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ENVIRONMENTAL ASSESSMENT BOARD

VOLUME: XXIII

DATE: Tuesday, July 5th, 1988

BEFORE:

M.I. JEFFERY, Q.C., Chairman

E. MARTEL, Member

A. KOVEN, Member

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EA-87-02

HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental
Assessment for Timber Management on Crown
Lands in Ontario;

- and -

IN THE MATTER of an Order-in-Council
(O.C. 2449/87) authorizing the
Environmental Assessment Board to
administer a funding program, in
connection with the environmental
assessment hearing with respect to the
Timber Management Class
Environmental Assessment, and to
distribute funds to qualified
participants.

Hearing held at the Ramada Prince Arthur
Hotel, 17 North Cumberland St., Thunder
Bay, Ontario, on Tuesday, July 5th, 1988,
commencing at 9:30 a.m.

VOLUME XXIII

BEFORE:

MR. MICHAEL I. JEFFERY, Q.C.

Chairman

MR. ELIE MARTEL

Member

MRS. ANNE KOVEN

Member



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A P P E A R A N C E S

| | |
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| MR. B. CAMPBELL) | MINISTRY OF ENVIRONMENT |
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Decommissioning by Mr. Tuck 4010
Decommissioning by Mr. Gaudet 4011

I N D E X O F P R O C E E D I N G S

| <u>Witness:</u> | <u>Page No.</u> |
|---|-----------------|
| <u>JOHN EDWARD OSBORN,</u> | |
| <u>KENNETH A. ARMSON, Resumed</u> | 3923 |
| Continued Direct Examination by Mr. Freidin | 3924 |
| Cross-Examination by Mr. Tuer | 4010 |
| Cross-Examination by Mr. Castrilli | 4031 |

I N D E X O F E X H I B I T S

| <u>Exhibit No.</u> | <u>Description</u> | <u>Page No.</u> |
|--------------------|--|-----------------|
| 105 | Excerpts from book entitled: Forest Management: Regulation and Valuation by Kenneth P. Davis. | 4059 |
| 106 | Excerpt from book entitled: Forest Management by Lawrence S. Davis. | 4062 |
| 107 | Excerpt from a document entitled: Terminology of Forest Science, Technology Practice and Products. | 4068 |
| 108 | Excerpts from the Royal Commission on Forestry, 1947 known as the Kennedy Report. | 4073 |
| 109 | Excerpts from the Brodie Forestry Study Unit. | 4078 |
| 110 | Two-page excerpt of Section 6 of the Crown Timber Act. | 4083 |

1 ---Upon commencing at 9:30 a.m.

2 THE CHAIRMAN: Good morning everyone.

3 Please be seated.

4 Whenever you are ready, Mr. Freidin.

5 MR. FREIDIN: If I could just have one
6 moment.

7 I would like to begin, Mr. Chairman, by
8 filing with the Board answers to undertakings given by
9 the proponent during the evidence of Panel No. 1. I
10 hope to be in a position to provide the same
11 information in relation to undertakings of Panel No. 2
12 some time this week.

13 What we have done is we have identified
14 the undertakings by day, we have indicated the location
15 in the transcript where we believe the undertaking was
16 given and it would set forth that particular portion of
17 the transcript and then have our response.

18 As I understand the ruling of the Board,
19 the answers to the undertakings were to be filed with
20 the Board and become part of the record.

21 In relation to some of the undertakings,
22 we have supplied documentation to the party who asked
23 the question or to whom the undertaking was given. We
24 have not included the documentation which we have
25 provided to that party as part of our answer. We have

1 given the answer, if the party feels that they want to
2 do something further with further documentation, then I
3 suppose they will do that in whatever manner they see
4 fit.

5 If I could then, I would like to file
6 with the Board then a copy of the undertakings and the
7 answers. We are also providing to the Board copies of
8 the documentation referred to. As I understand it, you
9 will make that available here in the reading room and
10 in Toronto.

11 We have also provided copies of the
12 letters which went to the solicitors acting for the
13 people to whom the undertakings were given and, in
14 relation to an undertaking given in response to a
15 question from Mr. Martel related to the natural
16 acidification of lakes, we have provided a textbook
17 which deals with that particular matter in a general
18 way, but we have made a copy of Chapter 5 of that
19 particular book which we believe will address Mr.
20 Martel's concerns.

21 So I am not too sure how you want to file
22 that in terms of...

23 THE CHAIRMAN: Well, I am not sure that
24 those should go in as exhibits, particularly the
25 responses to undertakings.

1 I mean, basically what you are doing is
2 complying with some undertakings. I am not sure that
3 that will necessarily form evidence, depending on what
4 use the party to whom the undertaking is given wishes
5 to put it.

6 If they refer to it later on in their own
7 case or further in cross-examination in terms of
8 introducing some of that material, then perhaps it
9 could be exhibited at that time.

10 MR. FREIDIN: Fine. I am content with
11 that.

12 THE CHAIRMAN: Do any of the other
13 parties have any objections to that?

14 MR. CASTRILLI: I don't have any
15 particular objection, Mr. Chairman, but I would, as I
16 indicated at the time, I guess the close of Panel 1, I
17 wish to reserve my rights to consider whether I will
18 need to recall the witnesses from Panel 1.

19 I obviously just received this this
20 morning and I haven't had a chance to look at it.

21 THE CHAIRMAN: I think at the time the
22 Board indicated if there is a necessity to recall a
23 witness from Panel 1 to deal specifically with that
24 material, then we would consider it.

25 MR. CASTRILLI: Okay.

1 MR. CASSIDY: Mr. Chairman, with respect
2 to the documents that were provided to Mr. Castrilli,
3 it is my understanding that they will -- copies also
4 will be left in the reading room notwithstanding these
5 answers will not be filed as exhibits.

6 Is that correct, Mr. Freidin?

7 MR. FREIDIN: That's my intent. I have
8 left two copies of the answers and the documentation
9 referred to to be used in that fashion.

10 THE CHAIRMAN: Yes. That is the Board's
11 understanding, that we will place on deposit in this
12 one location--

13 MR. CASSIDY: Thank you.

14 THE CHAIRMAN: --that material.

15 MR. FREIDIN: That is the second copy, it
16 is the answer and the documentation. This is the
17 document which has the letters to the counsel and has
18 the textbook and the xerox copy of Chapter 5.

19 THE CHAIRMAN: All right. And this is
20 what will be on deposit in the reading room.

21 This one?

22 MR. FREIDIN: (Indicating)

23 THE CHAIRMAN: Oh, I see. Thank you.

24 JOHN EDWARD OSBORN,

25 KENNETH A. ARMSON, Resumed

1 CONTINUED DIRECT EXAMINATION BY MR. FREIDIN:

2 Q. Mr. Armson, you are going to be
3 dealing with the topic of yield regulation, wood flow
4 which begins on page 47 of the witness statement and
5 you will be dealing with everything from that
6 particular page on, to the end, up to paragraph 131.

7 And could you, Mr. Armson, in a general
8 way advise the Board what your evidence really deals
9 with and the message that will be conveyed through your
10 evidence?

11 MR. ARMSON: A. Yes. I think the Board
12 will have heard yesterday from Dr. Osborn on the
13 determination of the maximum allowable depletion for
14 each management unit. And I would also recall to the
15 Board the fact that we had earlier, in previous
16 evidence, identified the determination of demand and
17 the activities that go on, must go on, in terms of
18 timber management, within the defined area, the
19 management unit.

20 However, as I have indicated in the
21 evidence in Panel 2, while originally, decades ago, the
22 supply of wood from an area to a mill was relatively on
23 a local or watershed basis because of the manner in
24 which access was determined and for other reasons
25 increasingly, I think I pointed out, there is a

1 movement of wood from one unit through to mills that
2 may be obtaining wood from other units and that wood
3 may be in the form of either roundwood or it may be in
4 the form, increasingly, of residues, particularly chips
5 for pulp mills.

6 So that increasingly, although we
7 identify and determine the maximum allowable depletion
8 for a specified unit, we recognize that wood will flow
9 from one unit to mills that are not dependent on that
10 particular unit initially and that, in this movement of
11 wood in relation to both transportation and access, but
12 also in relation to changes in technology, it is a
13 dynamic thing, it is not something that is relatively
14 static.

15 And although we have in the past dealt
16 with changes in flow of wood on a local basis, it has
17 become increasingly obvious that we have to deal with
18 wood flow as a regional, sub-provincial and even at a
19 provincial level.

20 And what I am going to do is explain how
21 we have set in place a process for dealing with that
22 and what the implementation of that are in terms of the
23 ongoing deliberations of the Ministry at local,
24 regional and provincial levels.

25 Q. During the preparation of a timber

1 management plan, is assessment of the demand for wood
2 from the management unit made?

3 A. Yes. And if I could draw the Board's
4 attention to Exhibit No. 7, which is the Timber
5 Management Planning Manual for Crown Lands in Ontario,
6 and take the Board through some of the tabular material
7 there to illustrate how that material -- how the data
8 are assembled.

9 Q. And before you begin taking the Board
10 through those tables, do those tables deal only with
11 the demand for wood or do the tables also speak to the
12 issue of the supply of wood?

13 A. They deal with both, both the demand
14 and the supply.

15 If the Board would turn to page 89, and
16 that is Table 4.18.1. I just direct the Board's
17 attention, there are two tables, 4.18:

18 .1 is the forecast of wood utilization by
19 licensee for the five-year term and that would be the
20 five-year term for the ensuing -- that would be the
21 ensuing period of the management plan and you will
22 notice that it is for a forest, a Crown unit forest in
23 this case, and that the licensees, or consumers listed
24 in the left-hand column will indicate both in terms of
25 conifer species and hardwood species the net

1 merchantable volume that they anticipate they will
2 require through that period.

3 So there is a listing in here and, Mr.
4 Martel, you may recall yesterday you were asking how
5 does the unit forester, the forest manager, how does he
6 determine what the requirements are, and this table
7 would be derived from information the forest manager
8 would obtain from the licensees and discussions with
9 them, obviously to some extent based on the current or
10 immediate past requirements, but also looking forward.

11 So this is where there would be a to'ing
12 and fro'ing, if I might put it, between the forest
13 manager and the licensees to determine what they were
14 going to require by species in terms of volume.

15 Q. And by species and net merchantable
16 volume is indicated on the table?

17 A. And that is indicated on the table
18 and the species are subdivided in two groups, the
19 conifer species and the hardwood species. And I think
20 later on you will see the significance of that.

21 Q. And the limitations in terms of that
22 volume and species is in the first line of that table?

23 A. Right.

24 Q. Okay.

25 A. And the first summation, the total

1 planned volume that the licensee had, that is the first
2 summation line, and I would like to just leave that
3 table at that point.

4 So that is, if you like, the initial
5 statement as to requirements. Table 4.18.2 is very
6 similar, it is subdivided but it is for company
7 management units and forest management agreement areas.

8 Q. So those tables then are an
9 indication of what the demand of that particular
10 licensee would be from the particular unit that is
11 having the plan prepared?

12 A. In the instance of Table 4.18.1 and
13 for Crown unit it is specifically for that unit; for
14 the 4.18.2, for the larger, in effect, prime licensees
15 as the term used here or agreement holders, then that
16 is not only the amount required from that forest, but
17 also they indicate on that particular table what would
18 be their forecast requirements as coming from other
19 sources.

20 Q. And that is indicated on the
21 left-hand side of Table 4.18.2 by breaking up the
22 column into a) from the management unit forest and b)
23 from other sources?

24 A. That's correct. And it basically is
25 a recognition of the different sizes, essentially the

1 different size of the licensees and mills. So that is
2 the first statement of requirements.

3 If I could direct the Board's attention
4 back to page 79, and this is Table 4.15 in the same
5 document, and I am returning now to the elements that
6 Dr. Osborn had discussed. We are now talking about the
7 forecast depletion and yesterday Dr. Osborn took the
8 Board through the calculations and the determination.

9 So Table 4.15, for the same five-year
10 period, we now have the requirements specified by the
11 licensee. We now have a tabulation of the depletion
12 and you will see that is on the total -- on the
13 right-hand column there is a total and then there is a
14 MAD, the MAD referring to the maximum allowable
15 depletion, and this is an area, and it is by working
16 group or forest unit as described by Dr. Osborn.

17 So this is distinct then from the units
18 that are used in the requirements at this point. This
19 is the determination of MAD and the depletion area
20 associated with that for each of the working groups and
21 forest units.

22 Q. So whereas the initial table was then
23 by licensee, the individual requirements of licensees,
24 this particular table deals with depletions of working
25 groups regardless of who might be harvesting the area?

1 A. That's right. This is for the forest
2 area in the management unit which is being dealt with
3 in the plan.

4 Q. Now, although I am not going to refer
5 you to the back of this particular table or, I guess,
6 page 80, in going through this particular Timber
7 Management Planning Manual, when there is a table
8 contained within the manual, am I correct that there is
9 an explanation of that particular table in the manual
10 as well?

11 A. That is correct. On the reverse side
12 of each table there is usually a heading Instructions
13 and this will set forth then the manner in which the
14 table will be determined or filled in and it usually
15 describes the elements, what you do with it, it is a
16 very clear exposition of how the table is derived.

17 Q. And, in addition, if we look to page
18 78 of the manual there is, as well, a description of
19 that particular table in a text form?

20 A. That's correct.

21 Q. All right.

22 MR. FREIDIN: Mr. Chairman, we don't
23 intend to go through the back of all these tables,
24 but -- except for one, we will go through part of it.

25 MR. ARMSON: If I may take the Board then

1 to the next Table 4.16 which is on page 83, page 83 of
2 that document. This table is headed: Forecast
3 Disposition of the Maximum Allowable Depletion Area, in
4 other words from Table 4.15 we have the determination
5 of that, now we are going to look at the disposition of
6 that.

7 And, again, the units here are the area
8 by forest unit or could be working group, and I would
9 draw the Board's attention to the left-hand column and
10 there are a sequence of seven numbers, numbered lines
11 there. And the key element here too is that, first of
12 all, the MAD is identified as Item No. 1, that would be
13 the MAD coming from Table 4.15.

14 There would be then a listing of areas
15 allocated, that's under Item No. 2, and also under Item
16 3, reserves. These would be areas within the MAD, if
17 you will, which for whatever reason cutting could not
18 be allowed or permitted.

19 Q. Can I just go back to No. 2 -- let's
20 go back to 1, the maximum allowable depletion for a
21 particular forest unit is described in area?

22 A. That is correct. It is described in
23 area by hectares.

24 Q. Could you give an explanation of what
25 is meant in No. 2 as being the allocated area?

1 A. The allocated area is the one that is
2 trimmed from the sub-totals for the total -- depletion
3 area total from 4.15, that is the area, that is the
4 number. In other words, the numbers for MAD and the
5 number for the depletion area come from Table 4.15.

6 Q. When you determine the allocated area
7 as part of a plan, is it shown in a map form?

8 A. Yes, it is.

9 Q. What would someone see if they went
10 to this map upon which there was an indication of the
11 allocated area?

12 A. I am not normally involved in the
13 local preparation of plans, but normally there would be
14 stands or combination of stands which would be
15 identified by a colour or some designation, this was
16 outlined, in other words, to provide to anyone looking
17 at the map the location and extent of the area that was
18 in the allocation.

19 Q. All right. And at the beginning of
20 this calculation, can you comment on whether the area
21 allocated, how that would compare to the area of the
22 maximum allowable completion?

23 A. It might not be the same. It might
24 be -- it could in some instances differ from that. And
25 that is the purpose in Table 4.15 of the final column

1 on the right-hand side which says difference in terms
2 of the MAD, between the MAD and the total.

3 THE CHAIRMAN: Mr. Armson, maybe I am
4 misunderstanding it slightly, but when you end up with
5 the total from the MAD, you end up in hectares an area
6 expressed in hectares as the amount which can be
7 harvested, effectively?

8 MR. ARMSON: That's correct.

9 THE CHAIRMAN: But It does not
10 necessarily identify the area specifically?

11 MR. ARMSON: That is correct, that is a
12 number--

13 THE CHAIRMAN: That's right.

14 MR. ARMSON: --that has been calculated
15 for each working group and each unit.

16 THE CHAIRMAN: And so when you get to the
17 allocated areas--

18 MR. ARMSON: That's right.

19 THE CHAIRMAN: --that, I take it, are the
20 areas which can be utilized to fulfill the figure that
21 is arrived at in the MAD column?

22 MR. ARMSON: That is correct. And that
23 area may be in fact somewhat larger than the total area
24 of the MAD.

25 THE CHAIRMAN: But you cannot cut more

1 than what is allowed in the MAD?

2 MR. ARMSON: That's correct.

3 THE CHAIRMAN: Okay.

4 MR. ARMSON: But we will come to an
5 example where, as Dr. Osborn -- you may.

6 MR. MARTEL: Didn't you say that the
7 areas that were allocated in reserves, where you didn't
8 cut on them. Allocated area Item 2 and reserve Item 3,
9 didn't either you or Mr. Freidin say that cutting was
10 not permitted in these areas?

11 MR. ARMSON: In the reserves.

12 MR. MARTEL: Oh, just the reserves.

13 MR. ARMSON: Just the reserves, Mr.
14 Martel.

15 MR. MARTEL: Oh, pardon me.

16 MR. ARMSON: Yes. If you want an
17 explanation for that, that is indicated again on page
18 84 on the back of that table.

19 MR. FREIDIN: Q. All right. Perhaps we
20 should go to the back of the table then, Mr. Armson,
21 and you can indicate where we will find that.

22 MR. ARMSON: A. That would be under Item
23 3 on page 84 and I will just -- where there is large
24 print, reserves, it says:

25 "Enter the unit by forest unit for which

1 harvest operations are not permitted
2 in allocated stands during the five-year
3 term according to the prescriptions for
4 modified operations. Enter the forest
5 unit sub-totals from the reserve column
6 in Table 4.15."

7 Q. And will later panels be describing
8 the circumstances under which certain prescriptions
9 might be made which might--

10 A. Yes.

11 Q. --result in both cutting or modified
12 cutting in areas which have been allocated?

13 A. The actual hands-on, if you will,
14 explanation of going through the management will be
15 dealt with, I believe, in Panel 15, if I am correct.

16 Q. Yes, that's correct. And before we
17 leave the allocated area, you recall Dr. Osborn's
18 evidence yesterday where he referred to certain
19 selection criteria at page 130 and 139 of the
20 Environmental Assessment Document, Exhibit No. 4. Do
21 you remember that?

22 A. Yes, I do.

23 Q. And were those the criteria which
24 would be used to identify the allocated area?

25 A. That is correct. The fourth item on

1 the Table 4.16, if I may proceed, is the difference
2 then between the allocated area and that which was
3 contained in the reserves within which no cutting would
4 be permitted.

5 So Item 4 then becomes the amount that is
6 available for harvest.

13 A. That is correct. The fifth item in
14 the column to the left then is the planned harvest
15 area. That is in relation to the forecast requirements .
16 by the licensee. And if I might just refer the Board
17 again to Table 4.1 -- sorry, I was going to go to 4.17
18 now, but I think I will leave that for the moment.

19 The planned harvest then is summarized at
20 the bottom of that Item 5.

Q. That is the total planned harvest?

22 A. That is the total planned harvest by
23 the licensee.

Q. By all the licensees?

25 A. All the licensees.

1 Q. And it's done for each forest unit?

2 A. This is done for each forest unit,
3 correct.

4 MRS. KOVEN: Excuse me. Do the licensees
5 know at this point which stands they will be cutting,
6 know the volume they will need and the general area
7 they will harvest?

8 MR. ARMSTRONG: There is usually --
9 again, without having been involved, there is
10 usually -- and I would like -- and should be an
11 on-going dialogue and communication between the
12 licensees who obviously are dependent on the wood
13 supply and the forest manager who is dealing with them
14 essentially on almost a daily basis.

15 So that, yes, there is discussion about
16 where that wood will come from. That is particularly
17 true in the case of the Crown management units where
18 the licensees are normally smaller and where the unit
19 forester is preparing the plan.

20 Where you have a forest management
21 agreement holder and the agreement holder is
22 responsible for this plan, then obviously the dialogue
23 is, to a large degree, internal although it is also
24 with the Ministry forester who has responsibility for
25 that agreement, though he doesn't or she doesn't

1 prepare the plan.

2 Yes, Mr. Martel?

3 MR. MARTEL: If you had an area that was
4 Crown area, Crown reserve but, in fact, you had 10 or
5 15 small operators operating - and these are for saw
6 log or for supplying, if I can use an example in the
7 Noelville area --

8 MR. ARMSTRONG: Yes.

9 MR. MARTEL: --you had 7 or 8, you had a
10 fire, you had a whole series and some were independent,
11 some were just third party cuttings, would that all go
12 on this one area because that would be the only way the
13 Crown could keep track of...

14 MR. ARMSTRONG: That is correct. On the
15 Crown units with district cutting licensees and small
16 licensees, they would be listed in this tabulation.

17 Obviously there are a number of sheets.
18 This is only one sheet to give an example, but
19 obviously there would be a number of sheets in that
20 case.

21 MR. FREIDIN: The evidence in Panel 15
22 will indicate the information which would be available
23 in a written form or in a map form indicating exactly
24 where reserves were and exactly what operations, if
25 any, were allowed in them.

1 So that there is certainly more detail
2 will be dealt with than just what you see in this
3 particular table.

4 Q. So once you get this total planned
5 harvest of all the licensees on the unit in relation to
6 the particular forest unit you are dealing with, what
7 is the next figure that is determined?

8 MR. ARMSON: A. The next figure that is
9 determined is to relate this now back to the MAD, as
10 was indicated, that is the key number.

11 So that Item 6, which you will see in the
12 second last line of that table, is in fact the --
13 starting with the MAD as the given, if you will,
14 subtracting from that - and we are dealing now with
15 area by working group or forest unit - we subtract the
16 area that were in reserves and we subtract the planned
17 harvest area.

18 Q. Can I just stop you there.

19 MR. FREIDIN: Mr. Chairman, I believe the
20 copy that you have of the Timber Management Planning
21 Manual, in Item No. 6 has 1 minus 5.

22 THE CHAIRMAN: That is right.

23 MR. FREIDIN: That has been the subject
24 of an amendment which you would find -- amendments at
25 the beginning of the document. It should read 1 minus

1 3 minus 5.

2 Q. So having brought that to the Board's
3 attention, Mr. Armson, perhaps you could just go
4 through that determination of the estimated surplus or
5 deficit?

6 MR. ARMSON: A. Well, if we subtract
7 from the MAD the amount in reserves, the area in
8 reserves and the area that is in the planned harvest
9 and the residual number is a positive one, then we
10 refer to that as a surplus. In other words, there is
11 an excess.

12 MAD had a particular level, let's say, a
13 thousand hectares and there were 20 hectares in
14 reserves, for sake of argument, and there was 800
15 hectares to be harvested, so there were 820 and we had
16 a thousand, so we have 180 hectares then as a surplus.

17 If the sum of 3 and 5, the reserves and
18 the planned harvest, are greater than the MAD, then we
19 have a deficit. That has some implications of how do
20 we deal with that.

21 In the table, the surplus or deficit is
22 identified, but you will notice that there is - and
23 Item 7 here which deals only with surplus and is a
24 separate designation called the declared surplus.

25 Q. Perhaps you could explain what

1 declared surplus is?

2 A. Well, for example, if I use my
3 example: If there are 120 hectares, for example,
4 declared surplus or surplus, a licensee may in the
5 forecast or their strategy, if you will for the future,
6 be considering either a change in their mill in terms
7 of the equipment to increase capacity, or they may be
8 considering a different kind of operation; that is, to
9 change the technology completely and go to another
10 process.

11 Q. And, Mr. Armson, when you are giving
12 this evidence in relation to what the licensee may do,
13 should the Board have in mind a particular type of
14 management unit; are you referring to an FMA, are you
15 referring to a...

16 A. This is specifically concerned really
17 with FMAs where the term declared surplus is one that
18 is related to the agreement.

19 So these are -- normally we are dealing
20 with large licensees, large mills, where in fact
21 changes in process, technology, could have a very major
22 impact.

23 So they may be considering this. So they
24 may well say: In the light of what we may be
25 considering doing during the next five years - not

1 changing their process immediately - we believe that
2 that is -- some part of that surplus or all of that, we
3 will be using because we are going to expand our needs,
4 maybe not in the first five years, but subsequent to
5 that and we will need it. That is one way in which
6 they may...

7 They may also - and again this could
8 apply to Crown units - in the projections, and Dr.
9 Osborn used some charts here to show projections of MAD
10 based on growing stock and growth, and there may well
11 be, because of a number of -- one of several reasons, a
12 reduction in the MAD in the foreseeable future 5, 10 20
13 years ahead, but 10 or 20 years ahead.

14 They may say what we would like to do is:
15 If that surplus exists in a form and in stands that we
16 can hold - and I refer you back to the discussions
17 about holding, storing wood on the stump - what we
18 would like to do is not declare that surplus but, in
19 fact, recognize that in the next decade or two we may
20 use that to -- when the MAD calculation comes down, we
21 can use that to, if you like, fill in the hole.

22 So there are a number of aspects to this.

23 The declared surplus is what they - after
24 their considerations of their own strategy, what they
25 are anticipating in terms of mill changes, or what is

1 known about the future wood supply, MAD supply, they
2 say: And when we look at all that, out of the 120,
3 using my example, we don't think we are going to need
4 40, so 40 would be the declared surplus.

5 THE CHAIRMAN: Is this in effect a time
6 banking concept?

7 MR. ARMSTRONG: In that sense it is a
8 time bank -- and it is really time banking even in the
9 short-term where you are dealing with a technological
10 example. For example, if a mill were going to change a
11 process - and we are speaking primarily now of large
12 mills - then the process, the investment, the
13 engineering and so on usually take place over a span of
14 some years. So this is what we are looking at.

15 MR. MARTEL: Is this the way the third
16 party agreements are sometimes entered into, with this
17 type of surplus, determining how you or what you are
18 going to do with material that you yourself aren't
19 going to use?

20 MR. ARMSTRONG: That is correct, Mr.
21 Martel. Once the declared surplus is stated, then
22 according to the agreement, then the Minister or the
23 company in consultation with the Minister can see how
24 that could be used by other persons, by other licensees
25 and that, in fact, has been the pattern that has

1 developed with the forest management agreements.

2 MR. FREIDIN: Q. And there is a short
3 description of declared surplus on page 84, the back of
4 the table in Item No. 7?

5 MR. ARMSON: A. If I would -- I would
6 emphasize to the Board, it is noted there that the
7 justification for whatever surplus is involved shall be
8 outlined in the Section 4.8.2 of management strategies.

9 It can't be merely an oral statement: We
10 think we would like to do something, it has to be tied
11 back to some specifics either in terms of future wood
12 supply or in terms of what the strategy for the user of
13 that wood would be.

14 Q. And I understand that your evidence,
15 Mr. Armson, is really directed to what use or how one
16 identifies surplus and deficit on a regional or
17 sub-provincial or provincial basis and how that
18 information about surpluses or deficits can be used to
19 deal with local shortfalls in supply?

20 A. That is correct. And I think it will
21 become clear to the Board that this is one of the ways
22 of moving it from -- the information about surpluses
23 from the local to regional, sub-provincial or
24 provincial level.

25 The information so far is still relating

1 to area. I would like to move now to Table 4.17 which
2 is on page 87 of the Timber Management Planning Manual
3 and this takes the area estimates and its title is --
4 and provides now the volume information by species
5 which now can be related to the table that we started
6 with 4.18.1.

7 So this Table 4.17 is titled: Forecast
8 Volume Estimates for the Area of the Allocated
9 Depletion. For the five-year term, it is for the named
10 forest and it is comparable then to 4.18 in that it is
11 sub-divided into columns listing the working group or
12 forest unit on the left, the allocated area and then,
13 by species, aggregated as conifers or hardwoods, the
14 volumes, the net merchantable volume by species that
15 are available from that allocated area.

16 So that table then, if you will, becomes
17 the table which you can match up then with 4.18.1. You
18 have the forecast, requirements by the licensee in
19 4.18, and you have the final comparable volume
20 estimates from the finally determined allocated area in
21 4.17.

22 And if you have more in 4.17 than you
23 have in 4.18 the licensee presumably, they have
24 problems, and if you have less, then you have some
25 further consideration to be done.

1 Q. And could you just list for the Board
2 the sorts of things which could cause a shortfall or a
3 deficit situation to occur on a management unit in
4 relation to any particular forest unit?

5 A. Yes. There are basically three
6 broad -- three categories and these have been referred
7 to, but I would like to re-emphasize them.

8 First of all is the imbalance in
9 age-classes. Again as pointed out by Dr. Osborn, the
10 amount of wood that can flow biologically, if you will,
11 from that forest is determined by the age-class
12 distribution.

13 Secondly, this has also been noted, there
14 may be depletions from natural causes such as fire,
15 insects or disease and they can, in fact, cause major
16 differences between forecast requirements of the mill
17 and what is actually available.

18 And, thirdly, there is the item whereby
19 there is a designation of the land and the forest on it
20 as no longer being available for part of the production
21 forest land base. This simplistic example, I suppose,
22 is where, from a management forest, there is a decision
23 to take out some significant part of that as a
24 provincial park for whatever purpose.

25 And those are the three categories that

1 contribute.

2 Q. Now, what happens if there is a
3 deficit on the unit; in other words, there is a volume
4 of a particular species which is required from the unit
5 by the licensees is greater than the supply, what sort
6 of action can be taken to deal with that situation?

7 A. Well, as I indicated earlier, this
8 then immediately gives rise to considerations. One of
9 the -- probably the first consideration would be: Is
10 there a supply of wood from an adjoining or adjacent,
11 or certainly within reasonable transportation distance,
12 is there a supply of wood to make up that deficit that
13 can go to that mill's operations. That would be
14 roundwood or Crown timber from another unit.

15 And I think here you see the implications
16 now of having the statement of declared surplus in the
17 management plan.

18 The second element in terms of supply in
19 making up the deficit, and this would only apply
20 particularly to pulp mills, would be to substitute,
21 instead of roundwood, some form of residue, chips, to
22 make up that difference. And that, in fact, is a type
23 of action that can go on.

24 It has, however, some limitations. If
25 the pulp mill hasn't the capacity or the capability of

1 handling the chips initially, that may pose a problem.

2 Q. Could we just deal with the sources.

3 You said you could use roundwood, you could use chips
4 and residues.

5 A. Yes.

6 Q. By roundwood coming from another unit
7 or from somewhere else, what are you referring to?

8 A. I am referring to the solid timber
9 that would be part of the allowable cut or MAD from
10 another area of Crown forest or otherwise.

11 Q. And is roundwood the sort of stuff
12 you see on the trucks that go down the highway?

13 A. That's right. There was a train went
14 by here this morning just loaded with roundwood and
15 some chips too.

16 Q. Now, chips and residues, what are
17 chips?

18 A. Chips are the material, and it
19 normally comes as a by-product from a sawmilling
20 operation. Again, the technology that was introduced
21 into sawmilling particularly in the late 50s and
22 certainly in the 60s, provided for, when a log was
23 debarked to go through a sawmill, be cut into boards,
24 the normal -- prior to that the log was, if you like,
25 given a flat face on one or more sides and these were

1 so-called slabs, they were semi-circular pieces and
2 they would normally go out in the wood piles and people
3 might burn them, but they were generally waste.

4 A technology which goes by the name of
5 chip and saw came in whereby when the bark came off,
6 then a series of knives would in fact move down that
7 log, give it that flat face but instead of a slab you
8 would have wood chips. these could then be used in the
9 pulping process.

10 Q. Now, you indicated that if you had a
11 deficit in one area - you said it would apply in
12 particular to a pulp mill - that you might be able to
13 gets chips from elsewhere, but you indicated that there
14 may be limitations in relation to chips.

15 A. Well, there are limitations two ways.
16 There are limitations in just the physical ability of
17 the mill to handle chips. Many mills are set up purely
18 for roundwood and, therefore, have no way of feeding it
19 into the process. Most of the mills have now changed
20 so that they do have some capability for that.

21 But perhaps even more importantly is, in
22 terms of the product, in the process, if a mill is
23 using a certain type of roundwood it can't use "any old
24 chip", it would from the same or an acceptable species.
25 And, secondly - and here I am not an expert - it is my

1 understanding that the quality, particularly the size
2 of the chips and the sorting of chips becomes a very
3 important feature and, in fact, I believe -- it is my
4 understanding, that this is one of the key factors or
5 criteria in determining whether a pulp mill can use
6 chips as to the standard and consistent quality of that
7 material going into the mill.

8 Q. You referred to residues. Are
9 residues something different than chips?

10 A. Sawdust would be a residue in common
11 from the residue that might be used.

12 Q. And where might that be used?

13 A. That might be used in particle board
14 plants, a small amount might be used in pulp mills, but
15 basically it is a a much minimal use certainly in terms
16 of the pulping process.

17 Q. Now, in addition then to looking
18 elsewhere for --

19 MR. MARTEL: Can I ask a question?

20 MR. FREIDIN: Yes.

21 MR. MARTEL: In the pulping process, why
22 couldn't you use all the sawdust you can get, because
23 it is already broken very finely, is it because you
24 destroy the fiber or what?

25 MR. ARMSON: Again, I am not -- my

1 understanding is that in the process and in the
2 physical movement and so on of the particles, the size
3 of the material initially is quite important and this
4 is why there is a concern about chip size.

5 So this sawdust I don't believe really
6 enters into the pulping process really in any
7 significant way.

8 MR. FREIDIN: Q. I apologize, I didn't
9 catch all of your answer. Has fiber length got
10 anything to do with whether you can use...

11 MR. ARMSON: A. That would relate back
12 to the species as much as anything else as well as the
13 chip size. The fiber length is really a species
14 feature rather than just a physical nature of whether
15 it is a stick of wood or whether it is a chip.

16 Q. Right. Now, in addition to getting
17 the supply of roundwood chips or residues from outside
18 the management unit, is there any other way in which a
19 deficit on a unit could be dealt with?

20 A. Yes. A second way - and here I will
21 come to the qualification that I made earlier - if in
22 looking at the projection of the MAD it is seen that
23 rather than, if you like, a dip or a hollow falling
24 off, there is in fact going to be an increase in the
25 MAD in the next 5, 10, or 15-year period, it may well

1 be a decision to cut, to actually harvest more than the
2 stated MAD for the five-year period under consideration
3 and it might even be for two subsequent five years, if
4 you can demonstrate and quantify that in the next
5 period you will be making up that difference, picking
6 up that difference.

7 Again, this could be due to an age-class
8 distribution. So that, in other words, for a given
9 five-year period it may well be that the harvest would
10 exceed the MAD, but there would be a rationale and
11 justification for that in relation to future wood
12 supply.

13 THE CHAIRMAN: And who is the sole
14 determinant of whether the MAD can be exceeded, the
15 Ministry?

16 MR. ARMSON: That would be the Ministry
17 and normally the forest manager in charge who would
18 make that decision, after consultation.

19 THE CHAIRMAN: And he has the authority
20 to do so?

21 MR. ARMSON: The forest manager. I
22 believe he would have that decision and that would then
23 have to be approved, the plan approval in the Ministry
24 process, which will be described later, would be part
25 of that.

1 MR. FREIDIN: Q. If in the preparation
2 of a plan -- well, when a timber management plan is
3 prepared, I understand there are draft plans?

4 MR. ARMSON: A. Yes.

5 Q. And the draft plans are made
6 available for review?

7 A. That's correct.

8 Q. And would those draft plans indicate
9 whether in fact it was contemplated that there would be
10 a harvest greater than the MAD in any particular
11 period?

12 A. Yes, they will. And this, of course,
13 is the point at which one would look around to see how
14 the considerations of how to deal with the particular
15 deficit that was there.

16 Q. And is there a table in the Timber
17 Management Planning Manual or in the timber management
18 plan which deals with projected utilization of the
19 maximum allowable depletion in future five-year terms?

20 A. Yes, there is. And if I could refer
21 the Board to Table 4.14, again in Exhibit 7, the Timber
22 Management Planning Manual, and that is on page 75.

23 This table is headed: Maximum Allowable
24 Depletions Summary and is for the five-year period to
25 which the other tables and data apply.

1 It is, again, specified not only for the
2 five-year period but also for the specific forest or
3 management unit. And you will note that in that table
4 it provides a summary of the depletion by forest unit,
5 by age-class. It indicates - we won't go into this -
6 the method of calculation, as Dr. Osborn pointed out,
7 that has some relevance. And then the key point here
8 is it identifies the areas that depletion for the past
9 five years, for the current, and then the projected
10 next three five-year periods.

11 Dr. Osborn referred to the five-year
12 period and then the 20-year period. The plan is
13 prepared for 20 years, but is revised and renewed every
14 five years. So that in fact the 20-year projection in
15 terms of depletion is identified by five-year terms in
16 that Table 4.14.

17 Q. Mr. Armson, can you advise, does the
18 Ministry of Natural Resources play any role in actually
19 having the deficits satisfied?

20 A. Yes. And, again, I come back to a
21 point that Mr. Martel raised.

22 The Ministry and the Ministry staff, in
23 particular, the forest managers in identifying these
24 for the Crown units or, in fact, as identified in the
25 FMA holders or company licensed areas, the Ministry

1 plays a role in facilitating and bringing the knowledge
2 to bear of other sources of wood, for example, from
3 other Crown units.

4 But at the same time it also is, I
5 suppose, more than a facilitator -- or acts as a
6 catalyst and, to a very large degree, many of the
7 sources of wood that I have mentioned, for example,
8 wood chips, are often best negotiated, if you like,
9 between the sawmiller and the person who needs that
10 particular supply of wood.

11 So the Ministry staff act, first of all,
12 in making -- in knowing and having available knowledge
13 of surpluses available of similar type of wood and
14 where that is. And, secondly, and essentially
15 encouraging the entrepreneurs and the mill licensees to
16 in fact communicate and consult within their own groups
17 concerning surpluses that may occur both in terms of
18 chips or in terms of wood.

19 And I give you an example where a
20 sawmiller is cutting wood - and you will hear more
21 about this - the lower portion of the tree, larger
22 diameter is used for logs but the often the upper
23 parts, speaking of conifers, is pulpwood size, it won't
24 go through the saw mill, so it becomes what we call a
25 residual, a residual pulpwood.

1 And as a result of saw log operations,
2 there is usually a supply of pulpwood also available
3 and here is where negotiations between licensees may in
4 fact and do occur so that those volumes may become
5 available, in this case, to a pulp mill.

6 Similarly, it could work in reverse.
7 There are a number of arrangements between pulp mills
8 whereby -- and forest management agreement holders
9 whereby saw logs move from their area to saw mills and
10 they have a return in terms of volume chips.

11 Q. Now, you have indicated information
12 regarding supply and demand provided in the timber
13 management plan. Is there any other source of
14 information regarding demand and supply which is used
15 by the Ministry in terms of dealing with how to make up
16 deficits, local deficits?

17 A. Well, the major ones, and I think I
18 have referred to here in terms of other management use
19 sources and the results of other mills. I think those
20 would be the two key ones. There may be supplies that
21 may come in certain areas from private lands or be
22 imported into the province, but those are normally
23 taken as a result of initiatives by the, you know,
24 mill licensee rather than the Ministry.

25 Q. There is reference in the witness

1 statement to mill licence returns. Is that a source of
2 information regarding supply and demand?

3 A. Yes, the mill licence returns are
4 required by legislation and in fact form a type -- a
5 database which is a major component, in fact, in the
6 woodflow information process.

7 Q. And these mill licence returns, I
8 understand we will deal with the information that they
9 provide, are they required to be submitted to the
10 Ministry by legislation or regulation?

11 A. Yes, they are.

12 Q. And how frequently are those mill
13 licence returns submitted to the Ministry?

14 A. They were submitted annually, usually
15 at the end of each year; that is, the Ministry's year,
16 that is, they would run from April 1st of one year to
17 March of the next.

18 Q. And who must submit a mill licence
19 return to the Ministry?

20 A. The mill licensee. Each mill is
21 licensed and it is the requirement of the mill licensee
22 to submit the return.

23 Q. And could you describe then, Mr.
24 Armson, the type of information provided in these mill
25 licence returns?

1 A. Yes. These mill licence returns are
2 indicated in -- shown in Documents 57a, b, c, and d on
3 page 259 of the evidence, and in order to review those
4 I have prepared overheads of those same tables.

5 Q. All right.

6 A. If I can refer the Board to the first
7 one, table at the top of the page and that is Table
8 57a, you will see that this contains the basic
9 information about the mill: Where it is, who is the
10 owner of the mill, the manager, the contact person, the
11 type of mill and the telephone number.

12 Obviously, this is to enable us to have
13 an immediate -- ability to immediately contact the
14 people who...

15 Q. The contact person, who gets put in
16 there?

17 A. The contact person may be the
18 superintendent, somebody who in fact is regularly
19 available.

20 Q. And mill type?

21 A. Mill type would refer to saw mill,
22 veneer mill, pulp mill, paper mill and so on. There is
23 a listing of mill types and that category would be
24 identified. It may, in fact, be a mill with more than
25 one, it may be a saw mill -- normally these are set out

1 separately.

2 The left-hand column then deals with the
3 production of the mill for the year for which the
4 return is made. In other words, if this were a return
5 made in March of 1988, it would cover the period of
6 April 1, 1987 to March '88.

7 The product would be specified, and then
8 there are a set of information that deals with
9 production: Production per shift, the current
10 production, and the five-year average production and
11 this is for the wood going into the mill as expressed
12 in cubic metres.

13 And then where the products go and the
14 percentage in terms of whether the products are
15 destined for abroad in terms of the USA or other, or
16 whether they are to be kept within the country. We
17 don't distinguish with the first within Ontario at all.

18 Q. Now, when you're dealing just at the
19 top of that particular box, when you are talking about
20 product, are you talking about product which comes into
21 the mill from the forest, or are you talking about what
22 gets shipped out of the -- or from the mill after the
23 processing has taken place in the mill?

24 A. This is the product that comes out
25 the other side -- I believe Dr. Osborn talked about

1 wood going into the front end of the mill, I guess if I
2 may use the expression, this is the product coming out
3 of the other end.

4 So this would be newsprint, paper,
5 lumber, plywood and so on. It is a little confusing
6 because we use the term forest product on the
7 management side to talk about saw logs, pulpwood and so
8 on.

9 The right-hand column is one that is used
10 to give some indication of waste management, and here
11 we are referring to the use of sawdust, other residues,
12 bark and so on. This is the waste used, what is the
13 conversion unit in terms of the identification, what
14 kind of a unit, there are a number of co-generation,
15 for example, there are a number of units of that type,
16 whether it's providing heat or electricity, some may be
17 pelletized. In Hearst there is a plant which produces
18 pellets which is used by some of the pulp mills and the
19 volume used.

20 Q. What are pellets?

21 A. Pellets. This is where wood, sawdust
22 in particular, is taken in a process and the sawdust
23 particles are combined into a pellet size or some
24 larger size to be then fed, and instead of being rather
25 loose and fluffy, it can be fed then into the furnaces

1 in a mechanical way, it is just the number utilized in
2 certain kinds of furnaces, and then the volume that is
3 used and the volume that is not used.

4 The next table which is probably the most
5 important one in terms of woodflow --

6 Q. And this is Document 57b?

7 A. Document 57b and this title of the
8 table is Wood Receipts, and on the left-hand side you
9 see two things: First of all, there is a mill name,
10 but there is also a mill number. This enables us to --
11 this is part of the tracking system in a computerized
12 situation.

13 Then for the wood receipts and for the
14 year for which we are discussing this, the year might
15 be 1987 maybe 87-88, the receipts of wood that have
16 come into that mill over that year in the form of --
17 now you see why in the Table 4.18.1 the species were
18 identified, but they were categorized into conifers or
19 hardwoods.

20 So that in this table it is not broken
21 out by species, but lists the volume coming from Crown
22 forest lands, from patent or private, from other and
23 then the total in terms of conifer and hardwood for the
24 current year, and also in the right-hand side of that
25 block, the five-year average.

1 It also includes the volumes in chips or
2 shavings both for the current year for which the
3 licence -- to which the return applies and the
4 five-year average.

5 Q. That indicates the receipt by the
6 specific mill of those types of products?

7 A. That's right, and that aggregates for
8 all Crown, for all patent, or private, and other would
9 be -- could be from another province or from the United
10 States or imported into the country.

11 Below those summaries then there is then
12 on the bottom side of the left-hand side of the table
13 the listing of management unit commitments, and these
14 are identified by management unit, and there may be
15 more than one, a mill may draw it's wood from, have
16 commitments from more than one Crown unit. And these
17 are the ones that would then be found if you track back
18 to the table for the management plan containing the
19 listing of licensees and the commitments in terms of --
20 this would relate back to, and the numbers, your net
21 merchantable volume for conifer and hardwood.

22 So that would track back to the
23 management plan.

24 Those are the commitments from the unit.
25 Up here you see another caption on the top right-hand

1 side of that table that says: Timber Supply
2 Management. This is subtitled, a listing of who
3 supplies that and it is indicated by volume and, in
4 this instance, species are indicated.

5 The Timber Supply Management refers to
6 sources of wood that might come from purchase from a
7 third party; it might come from a district cutting
8 licence, it might come -- it doesn't mean that this
9 comes from other than Crown lands, in fact this would
10 normally be coming from Crown land, but it wouldn't be
11 part of a direct management unit commitment to the
12 licensee, it would be a commitment to another licensee.

13 Q. Perhaps you could just go back, just
14 for a second, go back to management unit commitments,
15 you just used the phrase, management unit commitments
16 to a licensee.

17 Could you explain that and use the table?

18 A. This licensee, this mill would in
19 fact be the licensee identified in the timber
20 management plan for a given unit as a requirement
21 forecast and for which the unit was making a commitment
22 to provide some volume of species, conifer or hardwood.

23 So that would be shown, for example, in
24 Table 4.18.1, if it were a Crown unit, the name would
25 appear there and the related volume by species.

1 Q. The licence that you refer to in that
2 case where you are a licensee to whom a commitment is
3 made to supply wood in a timber management plan--

4 A. That is correct.

5 Q. --that licence is not the mill
6 licence, is it?

7 A. No, no.

8 Q. What type of licence is that?

9 A. That is a timber licence under the
10 Crown, this is a licence for the right of cutting
11 timber, as distinct from the mill licence which is a
12 mill licence related to the mill owner.

13 Q. All right.

14 MR. MARTEL: But usually with the big
15 producers, the big mill operators, do they not get most
16 of their wood primarily from tracts of land which they
17 hold licence to anyway?

18 MR. ARMSON: That's right. And that
19 would -- in other words, if this were a forest
20 management agreement holder commitment, then the
21 management unit here would be FMA No. so and so and
22 there would be, if you like, a commitment from that
23 area for a certain volume.

24 MR. MARTEL: Does that distinguish it
25 from the information then -- is that the main

1 distinction from that and the material on the
2 right-hand corner supplied from another licensee within
3 the same area?

4 MR. ARMSON: That's right. If it were
5 from within the same licence area, that would then be
6 identified in the commitment as coming from a separate
7 individual, yes, but it would be from the same area.

8 Normally -- that would happen, but
9 normally this would apply to agreements for wood coming
10 from outside the area. That might be the result of the
11 situation.

12 MRS. KOVEN: Excuse me.

13 MR. ARMSON: Yes?

14 MRS. KOVEN: Do we still have the contact
15 person in the first form filling out this one as well?

16 MR. ARMSON: Well, this mill -- well, it
17 would be the same person from the same mill. In other
18 words, these are a series of forms that all apply to a
19 mill. The forms that we are dealing with all relate to
20 each mill.

21 MRS. KOVEN: There are four separate
22 forms?

23 MR. ARMSON: There are four separate
24 forms.

25 MRS. KOVEN: And they arrive on someone's

1 desk at the same time?

2 MR. ARMSON: Usually, I believe, but I
3 cannot vouch for that. They don't come across my desk.
4 They normally come into the region and the Timber Sales
5 Branch.

6 MR. FREIDIN: We can get that information
7 for you.

8 Q. And when you are dealing with a
9 specific mill--

10 MR. ARMSON: A. Yes.

11 Q. --say a large pulp mill, is it
12 common, or would you say it is uncommon for supply to
13 that particular mill to come from more than one
14 management unit?

15 A. It is common for the supply to large
16 mills to come from more than one source. It may not be
17 another management unit, but it is another source.

18 And the bottom right-hand corner has an
19 item called chip commitments and this would be -- for
20 certain mills, that would be a major item of source of
21 material.

22 MR. MARTEL: A number of years ago,
23 because we are dealing with supplying mills, as I
24 understood it, the problem in Ontario was that to
25 supply a mill A frequently you had to put access roads

1 through someone else's holdings to get to your source
2 of wood.

3 As I understood, Quebec once looked at
4 realigning the holdings, the licences so that in fact
5 the company A had a larger tract in one area so that
6 they wouldn't have to be building roads across someone
7 else's property which contributes, as I thought,
8 heavily to the cost of wood supply.

9 Is that still a problem here?

10 MR. ARMSON: No, I will come to and
11 answer. First of all, yes, Quebec - I cannot think of
12 the exact year, but I believe it was about '78 or '77 -
13 retrocassed, that was the term they used, their
14 licences and that was to realign, reapportion for the
15 reasons you have indicated. In actual fact it never
16 took place.

17 There may have been some minor changes
18 and, in fact, companies went on cutting in the same
19 areas and, essentially, the same way with some minor
20 adjustments.

21 The question of accessing through another
22 licence, yes, it has been from time to time, I believe,
23 a problem, but to my knowledge - and I am not dealing
24 with this on a day-by-day basis - I am not aware of any
25 major difficulties that have occurred. There have been

1 arrangements for third parties cutting on areas, and
2 licence building and road building and that has been
3 dealt with through the forest management agreement
4 process.

5 MR. MARTEL: I didn't think it was so
6 much a case of trouble between various holders, but
7 cost-wise the length of roads would have to be made in
8 order to haul long distances as opposed to realigning
9 the various licences, so that in fact you would be
10 hauling a shorter distance, but having realigned them
11 in a different sense, a different way, would mean major
12 companies wouldn't have to haul so far or make so many
13 roads.

14 MR. ARMSON: I really can't speak to
15 that. I am not aware that that has been an item that
16 has given concern, certainly not in the recent years,
17 but I am certainly not familiar with it.

18 The final item, as I say, may be a major
19 source of wood, we use the term furnish. We talk about
20 the furnish going into a mill. So this would be a kind
21 of furnish, this would be chips from the roundwood and
22 this may be, in fact, may be a major source of furnish
23 of wood going into a mill.

24 And here we have specified where the
25 chips -- the origin in terms of the mill producing the

1 chips, the type of wood, and the volume.

2 MR. FREIDIN: Q. And under this, one
3 chip commitments, the mill identified, am I correct,
4 that that is the mill from which this particular mill
5 licensee identified in the top left-hand corner
6 actually gets chips?

7 MR. ARMSON: A. That's correct. In
8 other words, this mill obtains chips from this mill.
9 (indicating)

10 Q. So we have got here mill No. 0?

11 A. Right.

12 Q. In this case would receive chips
13 from, it could be mill X, Y? Z.

14 A. That's correct.

15 Q. And under the chip commitments, when
16 it says wood type, what does that tell you about the
17 chips?

18 A. That would be primarily species: Is
19 it spruce chips, jack pine chips, poplar chips,
20 whatever.

21 MRS. KOVEN: Do all the forms have this
22 chip commitment box, or is that just for this -- it's
23 tailored for this?

24 MR. ARMSON: No, this is part of the --
25 the forms that you are looking at here are the --

1 MRS. KOVEN: Standard

2 MR. ARMSON: --standard form. So that
3 for a saw mill, this wouldn't be any different. It is
4 really a comprehensive form and you fill in what
5 applies.

6 MR. FREIDIN: Q. So just hypothetically,
7 if a mill 0, at a particular point in time, had a
8 shortfall of roundwood, could you determine whether in
9 fact that mill used chips and, if so, what type of
10 chips by reference to the mill licence return?

11 MR. ARMSON: A. You can look at this
12 return and if there was a mill identified here and it
13 said spruce and what the volume was, you would know
14 right away that they could utilize it. Now, that would
15 give you a lead right there.

16 If there was nothing filled in here, it
17 would suggest that perhaps that mill didn't have the
18 capacity, for whatever reason, to utilize chips or
19 certainly we would pursue it, but you wouldn't have as
20 much sense of making up a deficit with chips as if you
21 did have an entry in there.

22 Q. And I understand later in your
23 evidence you are going to give some hypothetical
24 situations--

25 A. Yes.

1 Q. --in an attempt to explain how in fact
2 this information might be utilized?

3 A. That is correct.

4 Q. Okay.

5 A. The third part of the form, the mill
6 licence return, and this is Document 57c--

7 Q. Page 260.

8 A. --is a table which, again for the
9 year, lists the various products. I referred to the
10 listing of products and here you see the products as we
11 have them ranging from lumber, veneer, waferboard,
12 particle board, pulp, paper, chips, shavings, sawdust,
13 bark and hog fuel. And all these products are all
14 measured in different units.

15 Lumber in board feet; veneer in square
16 metres or square feet and, similarly, with waferboard,
17 pulp, in units of weight.

18 The actual equivalents are put down in
19 here in terms of cubic metres. This is to allow us to
20 refer back to supply, where we are dealing with a
21 product that comes out in one unit, it is convenient to
22 be able to look and say if the product of a certain
23 quantity, what then is the equivalent, if you will, in
24 terms of roundwood in terms of cubic metres. And the
25 economics group within the Timber Sales Branch have the

1 conversion factors which are used for that purpose.

2 The right-hand column deals with chips
3 and shavings specifically and the mill -- there are a
4 series of mills here, possible here, and the
5 destination. In other words, what mills produce what
6 chips, where is the destination, and what is the
7 volume.

8 And what you see here now is a linking
9 back to the form on Document 57b where you have, in the
10 lower right-hand box, you had the item concerning chip
11 commitments. So this is another part of the form
12 where, in fact, although that is the chip commitments
13 to a mill, this is for a series of mills, you are
14 getting in fact another designation as to the
15 determination.

16 Q. Let me just see -- give you a
17 hypothetical. If you go back -- in 57b then, if you
18 had mill 0, as we indicated, was receiving chips of a
19 certain type from the X, Y, Z lumber mill--

20 A. Right.

21 Q. --if you look at the return 57c, if
22 that was for mill -- if the licence return now was for
23 mill licence for X, Y, Z lumber mill, it should
24 indicate somewhere on the right-hand side of that
25 particular column that in fact chips of a certain type

1 were in fact being delivered from X, Y and Z to mill 0?

2 A. That is correct.

3 Q. All right.

4 The fourth - and this is Document 57d -
5 the fourth part of the format is a, I guess one would
6 call it almost miscellaneous. It is a list of comments
7 for the mill and it relates information concerning
8 employment both in the mill and in the woods operations
9 and then, as it indicates at the top, any further
10 comments.

11 This particular item in the mill licence
12 return has been -- in fact was introduced, but has been
13 particularly useful during the softwood lumber
14 countervail when the Ministry put together, on a
15 regular basis, commissioned weekly and still now on a
16 monthly basis, a summary of mills of the employees who
17 are currently employed, employees who have been laid
18 off and what the reason for that lay-off would be.

19 It was very useful not only for the
20 Ministry but for other government ministries in their
21 concern for how to deal with what we might call sudden
22 unemployment in an area where the mill or the woods
23 operation were the main employer.

24 MRS. KOVEN: Why would you have a union
25 category?

1 MR. ARMSON: That was put in there
2 because the majority are in that category, but there
3 are operations that are not unionized and it was just a
4 fact of knowing the differentiation in terms of
5 employment.

6 If I might say, I had personally --
7 during the softwood countervail, I was involved, I had
8 pretty constant communication with the head of the, at
9 that time, the lumber zone on lay-offs and it was in
10 relation to that. So it was a very useful piece of
11 information.

12 MR. FREIDIN: Q. All right. Can you
13 advise, Mr. Armson --

14 THE CHAIRMAN: Excuse me. Mr. Armson,
15 just at the bottom of that form, it refers to the MNR
16 Woodfill Operating Manual. That is a different manual
17 from this Timber Management Planning Manual?

18 MR. ARMSON: Yes, that is correct. That
19 was a manual that has been prepared in relation to the
20 whole matter of this process and is a new manual as
21 indicated there.

22 MR. FREIDIN: Q. Mr. Armson, is the
23 information that you have just referred to in terms of
24 supply and demand, is it summarized in any way and, if
25 so, at what level of the organization of the Ministry

1 is it summarized?

2 MR. ARMSON: A. Yes. This information
3 from the mill licence return is summarized at the
4 regional level in terms of the five regions that are
5 within the area of the undertaking; that is, the
6 northwestern, the northcentral, the northern,
7 northeastern and Algonquin regions, and also in main
8 office in the Timber Sales and Licensing Branch.

9 The information is brought together,
10 there has been a software package developed and the
11 information is collected on the computers at each of
12 the regional levels and then for the five regions in
13 main office.

14 Q. And, again in summary fashion, can
15 you indicate how the information is used then once it
16 is summarized?

17 A. Well, it is used in relation --
18 perhaps I should show the information that comes in
19 from the management units first. There is one table
20 there that completes the picture.

21 Q. All right, very well.

22 A. This is a tabulation and this is
23 Document 58 and it is the information from the
24 management unit side. The previous four tables come
25 from the mill licensee returns.

1 This one comes from the management unit
2 and is a comparable summary which identifies for each
3 management unit, as indicated at the top of the table,
4 the name of the unit and for the year, the amount of
5 wood, again by conifer and hardwood, not segregated by
6 species, measured in cubic metres for both the
7 five-year period and the annual net volume, the two
8 columns.

9 Q. The annual net volumes are which two
10 columns?

11 A. The first two columns are for the
12 five-year, conifer and hardwood, and then there is the
13 annual net volume here on the conifer and hardwood.
14 These are net volumes in net merchantable volumes by
15 conifers and by hardwoods and available for each of the
16 licensees on here.

17 So this is really a summation from 4.17,
18 except that the species have now been aggregated into
19 conifer and hardwoods.

20 It also includes the declared surplus or
21 deficit as the case may be and to the right-hand
22 column, it has some other pieces of information. One
23 is an item that doesn't occur in any of the mill
24 licence returns, but it is the volume per hectare.
25 This would be the average volume per hectare from the

1 previous period.

2 Now, it is a stand-alone item, but that
3 can only be related to the present volume per hectare.
4 In other words, if there is so much volume of conifers
5 being harvested from a certain area, X volume of cubic
6 metres from Y hectares, and that data from that came
7 from the previous five-year period, that would go up in
8 here. (indicating)

9 For the current -- then for the current
10 five-year period that would go in here, and the only
11 reason for that was if there were any marked difference
12 it could be, if you like, someone would say: Why is
13 his double error half that? Is there something going
14 on there in terms of utilization in the nature of the
15 forest. It is really nothing more than a signal.

16 In itself it doesn't convey any real
17 information, but it was put in there by the staff
18 concerned, both regional and main office staff in their
19 discussions. They felt it was a convenient signal or
20 item flag, I guess would be the right term.

21 The source of the information is indicated
22 here in terms of the table. This would be -- area
23 table would be 4.16 and the volume table 4.18.1 and
24 that really is the summation of the Ministry's
25 information on supply that relates then to the mill

1 license.

2 THE CHAIRMAN: Mr. Freidin, could we take
3 the morning break at this time?

4 MR. FREIDIN: Yes.

5 THE CHAIRMAN: Very well. We will break
6 for 20 minutes.

7 ---Recess taken at 11:00 a.m.

8 ---Upon resuming at 11:30 a.m.

9 THE CHAIRMAN: Thank you. Be seated,
10 please.

11 MR. FREIDIN: Q. Mr. Armson, having
12 described the sources of this information on supply and
13 demand, could you in a summary way indicate how the
14 region actually uses the information?

15 MR. ARMSON: A. Both the region and main
16 office use this in a number of different ways. First
17 of all, the data coming into the region will identify
18 within the region if there are any local imbalances, if
19 I can put it that way.

20 Secondly -- in other words, that would
21 come out of the comparisons between the commitments, if
22 you will, and what is available.

23 The second way in which it might be used
24 is in terms of the data and the forecast for, as you
25 noted in the table 4.14, the three subsequent five-year

1 periods you can, if you like, anticipate an impending
2 imbalance.

3 If you know what the current five-year
4 supply is and you know historically that it is at that
5 level or its sum, then you look at the then supply over
6 the next three five-year periods, then you can, to some
7 degree, anticipate what may be imbalances within that
8 time period.

9 And then, thirdly, in terms of - and this
10 is not only regionally, because there is a co-mingling
11 between regions where you would have data from these
12 returns, it would indicate that there may or may not be
13 available surpluses of a certain nature, you can then
14 look to the longer term strategies as to how that wood
15 supply might be utilized. That may be done and that
16 may be useful at the provincial level.

17 Q. All right. And we will be giving an
18 example of how it may be used for this longer term
19 strategy?

20 A. Right.

21 Q. Could you refer, Mr. Armson, to
22 paragraph 123 of the witness statement at page 49?

23 A. Yes.

24 Q. And in that particular paragraph, in
25 the third line -- or the sentence you indicate that:

1 "Recently, the recognition of the role
2 that the flow of wood and form of wood
3 supply plays in providing a sustained
4 supply to the industry has led to an
5 overall quantification of wood supply and
6 mill demand over the area of the
7 undertaking."

8 Now, "the overall quantification of wood
9 supply in mill demand over the area of the
10 undertaking", is that what you have described or is
11 there something in addition to what you have described?

12 A. That is what I have been describing.
13 Prior to this, prior to the introduction of this
14 aggregation, if you will, there was no overall
15 quantification in the sense that we have here.

16 What there were were usually responses to
17 local concerns, specific problems as might be
18 identified by a region or might -- in terms of not so
19 much of a problem but, yes, maybe how much wood of a
20 certain kind would be available in this area.

21 I can think of, for example, in my own
22 experience some years back when the question arose: Is
23 there enough wood supply in a certain area to support a
24 certain kind of mill. And then the question would go
25 out to the related region, the regions: Could tell us.

1 And then they would go down to the districts and start
2 to inquire from various plants.

3 In other words, it came about as an
4 individual sporadic - there was no consistent uniform
5 base. And I would emphasise here that the database
6 that we are talking about here we want to come in a
7 consistent fashion, come in in a regular way so that it
8 can be used at those three levels: local, regional and
9 provincial level, not only in terms of just the
10 imbalances and problems, but also knowledge and an
11 attempt to look to some future, and it is important
12 then that we have that consistent basis.

13 Q. And how is that consistent basis
14 being provided then under this overall quantification?

15 A. That is being provided by ensuring
16 that the data that comes in from the management unit
17 via the timber management planning is of a consistent
18 type, and I have indicated that. That the data that
19 comes from the mills is then consistent and moves into
20 the, if you might, system, the information system in a
21 consistent and regular way and that it is then
22 aggregated.

23 And one of key elements in putting this
24 system together, if you will, was in fact developing
25 the software that could deal with that and portray the

1 information in a number of different ways, as I
2 indicated to you earlier.

3 Q. Paragraph 123 says: "Recently...",
4 it begins with the word recently. Could you expand on
5 that?

6 A. Yes. The computerized system, if you
7 will, in both the hardware in terms of the computers,
8 but more particularly in the software, has begun to
9 function as of April of this year. There is still some
10 working-out problems and there is a phasing-in here.
11 And I would point out to the Board that because of the
12 implementation of the timber management planning
13 process over time; that is, the Timber Management
14 Planning Manual, there are still units with plans from
15 the older era and in those plans, the declaration of
16 surplus or deficit were not determined in the same way.

17 So that there is a period of phasing-in
18 and when all units have been on this plan that will be
19 completed.

20 MRS. KOVEN: Excuse me. What year did
21 you start sending out the forms that we saw this
22 morning?

23 MR. ARMSON: The forms -- there have been
24 mill licence returns of various types over the years.
25 The data is that you saw on those forms, which comes

1 from the requirement -- now required mill licence form,
2 those forms were changed most recently in relation to
3 this program; that is, in the past year and then the
4 Timber Management Planning Manual is obviously the
5 source of the other set of information in a consistent
6 manner.

7 And that process began, in terms of the
8 mechanism feeding it in, as of April of this year.

9 MR. FREIDIN: Q. Mr. Armson, the
10 deficits that the system is attempting to supply are
11 identified in the documents that you refer to in volume
12 per species?

13 MR. ARMSON: A. That is correct.

14 Q. And could you advise -- and am I
15 correct that the summary of this information at the
16 regional level and at the head office level is by
17 working group and not by species. Is that correct?

18 A. Yes, that is correct.

19 Q. Could you explain why you didn't do
20 the summary or the compilation at the regional or head
21 office by species?

22 A. Yes, I can, and there are two
23 reasons.

24 The one is a very mundane and practical
25 one, that in introducing this system it was considered

1 as to whether the species could be the unit and in
2 developing the system it was concluded that that was
3 going to be far too complicated and lead to some
4 problems, so it was decided to go with conifers,
5 softwoods, aggregate that.

6 The second reason, and I think equally
7 important and, in fact, perhaps in the long run more
8 important, was that the system was not put in place to
9 provide a solution to problems, either local or
10 regional in itself; it was put in place so that
11 problems could be identified early on, or impending
12 problems could be identified or it could be used in
13 terms of a strategy for how to deal with wood supply in
14 the longer term and, therefore, particularly in terms
15 of problems, it was meant to flag those and immediately
16 then go back to the local area and look at what can be
17 done.

18 At that point, species obviously --
19 species, dimensions and all sorts of attributes would
20 come into play.

21 So in terms of providing - and I go back
22 to a comment I made in Panel 2 about scale - we are
23 dealing with levels or scale of data and in the use of
24 this system the scale or level of data is at a certain
25 level and not broken down in species. It ultimately

1 may be at a regional level, even at the -- certainly at
2 the provincial level, I would doubt that it would be
3 that useful.

4 Q. Could you provide the Board with some
5 examples as to how this information might actually be
6 put into use?

7 A. Yes, I will give two examples,
8 hypothetical examples, but they are the kind of things
9 that have occurred and will occur.

10 In the first example, I will assume that
11 there is a pulp mill drawing roundwood from Crown lands
12 where there is in fact a deficit. The amount of wood
13 that is gone into mill normally to provide it with a
14 raw material supply is now in deficit.

15 Q. Is the deficit on a particular
16 management unit?

17 A. On a particular management unit.

18 Q. Okay.

19 A. It can be from a forest management
20 agreement unit, for example. The first, as I indicated
21 earlier, one of the first things that one would look at
22 is in fact: Can that middle, in this case a pulp mill
23 in this example, utilize some other form of wood for
24 furnish.

25 Is it, as I indicated earlier in the mill

1 licence, does it in fact utilize some chips. Is there
2 a possibility of making up that deficit by substituting
3 from other mills' chip supply. If the mill has the
4 capacity to handle that, fine, and the chips are
5 available, then that is one of the normal ways in which
6 we would look at treating that imbalance.

7 The second example would be where -- and I
8 should say that example, if the mill has an imbalance
9 and has no capacity to handle chips, it may well be
10 then that you have to -- and if there is not the
11 relevant source of roundwood, you may then enter into a
12 discussion and the mill may well consider putting in
13 some considerable investment in a chip-handling
14 facility so that over the next five and subsequent year
15 periods it can handle chips if they were available.

16 We are getting into a number of
17 ramifications and permutations of how that will be
18 dealt with in that case.

19 Q. What would happen in the second
20 situation where there was no source of roundwood but
21 the mill decided that it wanted to convert its plant so
22 it could use chips but that it would take, say, two or
23 three years to put in that facility, is that a
24 reasonable estimate in terms of years to do that sort
25 of thing?

1 A. To my knowledge, that is reasonable
2 and, in that case, then you might in fact again for
3 that one period, in fact exceed demand while the chip
4 facility is being put in.

5 But normally then you would look to the
6 chip substitution over time, not only filling in for
7 the imbalance but also for the excess at that time
8 would even up on that basis.

9 If I might, the second example -- a third
10 example, I guess in this case, would be where a mill
11 might in fact consider changing its technology to a
12 species that wasn't otherwise utilizing. It may be
13 using the conifer species and in fact consider
14 converting to a species such as poplar - and this is a
15 real life-type of situation - and utilize that to
16 substitute for softwood in the process.

17 Again, that would require some time and
18 investment and so on.

19 Q. And this system that you have
20 described would come into play then in terms of
21 supplying the material?

22 A. That's correct.

23 Q. The hypotheticals that you have
24 described so far are ones where the system was used to
25 respond to it an imbalance in supply.

1 Can a system be used in some other way or
2 in situations where there is no imbalance in supply?

3 A. Yes, it can. One of the situations
4 that occurs is that one of the regions, the northern
5 region, for example, is in effect a net exporter of
6 wood either in the form of roundwood or chips to
7 surrounding regions.

8 In other words, the balance of woodflow
9 you now see - and, again, this comes from the use of
10 the system particularly - is one of net export from the
11 northern region, net import into another region, say
12 the eastern region.

13 One could look at that and say: If in
14 fact the mills that are now utilizing, in this case
15 let's say the chips exported from the northern region,
16 were to undertake in the Crown undertaking over a
17 period of some years the increase in available supply
18 of wood within the importing region, so that it will no
19 longer require that haul of chips, then you are
20 developing a strategy to substitute for the imports, if
21 you will, with a local source of supply.

22 This is the kind of thing that we are now
23 looking at rather just dealing with the sort of
24 immediate problems. So over a period - and that may be
25 a period of several decades- you will gradually shift

1 the balance of wood supply which, in this case, is
2 between regions.

3 Q. In that hypothetical situation, could
4 the creation of a new source of supply for the
5 importing region have any implications for the region,
6 in your example the northern region, which was
7 exporting to that other region?

8 A. Well, it could be two things. It
9 could provide for an economic supply in the
10 northeastern region, the mills that were formally
11 hauling it a longer distance, and it would then make
12 available, if there were down the lines some possible
13 shortages coming in the northern region, it would make
14 available a supply, in other words, not exporting as
15 much.

16 Or, if that weren't the case, you could
17 then look towards increasing either capacity of
18 existing mills, possibly better utilization, so it
19 becomes more a strategy towards developing the
20 utilization in relation to not only wood supply now but
21 how we can tie-in, if you like, or consider strategies
22 for developing wood supply in future.

23 Q. Can changes occur within the mill
24 itself which could lead to a better utilization of the
25 same species that the mill has historically been using?

1 A. Yes, and this is in fact, for
2 example, the newer processes. There is one process
3 called thermal mechanical pulping and there are some
4 variations on that and it is referred to often as TMP,
5 thermal mechanical pulping. In that process of
6 producing pulp, the conversion of the raw wood to the
7 pulp is a very efficient process, very high percentage,
8 in other words, for a cubic metre going into the
9 process, the amount of pulp coming out is very close to
10 the amount of wood that goes in the front end.

11 This is not true for a number of the
12 other processes, for example, the sulfite pulping
13 process.

14 MR. MARTEL: But have we moved to that
15 very extensively in Ontario yesterday?

16 MR. ARMSON: We have not moved
17 extensively. There is, I believe, one TMP mill in
18 Ontario. The roundwood mills, instead of the old
19 roundwood mills were, it is my understanding, extremely
20 efficient in this manner the sulfite mills were perhaps
21 somewhat inefficient.

22 MR. FREIDIN: Q. And TMP mills?

23 A. TMP mills, thermal mechanical pulping
24 mills, are very efficient. They are higher energy
25 users but they are very efficient in terms of the raw

1 material of wood. So that as the technology - again an
2 example of where technology may come in to play to in
3 fact increase the efficient use of the wood and,
4 therefore, their constant wood supply, if I might say,
5 diminishes it or makes it available for other use.

6 Q. And could you just refer to paragraph
7 122 of the witness statement found at page 48.

8 A. Yes. And I think that this is again
9 a matter for some emphasis because neither the forest
10 industry nor the technologies relating to it are
11 static, and one of the things that we have seen is that
12 we are increasingly using species.

13 The best example I can give you is poplar
14 for pulping process, for other uses. 25 or 30 years
15 ago there was very little poplar consumed, certainly in
16 the pulping process. Now, there is a relatively large
17 amount of poplar, something of the order of about a 7th
18 to one eighth of the total Crown timber supply is from
19 poplar. That is one particular example.

20 A second example would be in the use -
21 and I referred to this earlier - of residues such as
22 chips and shavings and this, again, is related to the
23 technology, as I indicated earlier, of sawmilling. And
24 just to give you some order of magnitude, I am looking
25 at some of the data, within a 15 or 16-year period,

1 something like that, in the mid-60s through to '86, '87
2 the consumption of residues, chips and shavings by pulp
3 mills, has gone up by a factor of six.

4 Now, that may mean nothing if you go from
5 one cubic metre to six, but they now represent
6 something of the order of 30 per cent of the total
7 amount of wood or furnish going into the pulp mills in
8 this province.

9 So very close to, I think it is 29.7 per
10 cent, is reasonably -- very close and that has gone up
11 from, I think in the early 60s or mid-60s it was about
12 five per cent. So that has been -- it is not -- that
13 it comes from another source, but it is moved to a much
14 more improved utilization.

15 And then thirdly I indicated some of
16 this, more efficient processing in the mill as a result
17 of improved utilization. So those are the three areas,
18 three key areas.

19 Q. In paragraph 125 where you describe
20 or refer to the individual mill licence returns, you
21 refer in subsection (a) to those particular mill
22 licence returns being confidential.

23 Could you advise why they are
24 confidential?

25 A. They are confidential because, as the

1 Board noted in those tables, there is information about
2 productivity, the nature of the product, the volume of
3 the product, the number of chips, the number of
4 employees and this type of information could readily be
5 used by competitors and perhaps others...

6 THE REPORTER: Excuse me, Mr. Chairman, I
7 can't hear the witness.

8 THE CHAIRMAN: Oh, sorry. Could you use
9 your microphone, please, Mr. Armson.

10 MR. ARMSON: Oh, I'm sorry.

11 THE CHAIRMAN: Is that on? I think you
12 have to turn it on.

13 MR. FREIDIN: Q. All right. Perhaps you
14 could just start and just indicate--

15 MR. ARMSON: A. I'll start from the
16 beginning.

17 Q. --why these documents are
18 confidential.

19 A. The documents are confidential
20 because, as noted in the examples, they contain
21 information not only about the product, but the amount
22 of product, destination, the shifts, the number of
23 workers, and that, together with other information that
24 a competitor might have access to, could readily lead
25 them to make -- to draw conclusions about the nature of

1 the business, the viability perhaps of the business
2 and, therefore.

3 So these returns are confidential for
4 that purpose.

5 Q. If some competitor had information as
6 to the viability, how might they use that information?

7 A. Well, they might use that in terms
8 of, for example, if the competitor were also in the
9 business of wood supply to that mill, then they would
10 have perhaps a situation where they could exercise
11 their prerogative in terms of that supply, if it were,
12 for example chips or shavings, to use that as leverage.
13 There are any number of ways in which that could be
14 utilized.

15 MR. MARTEL: Do you really think that
16 there is that much information that competitor 'A'
17 doesn't know about competitor 'B' when one considers
18 that 'A' has knowledge of the business, they are in the
19 same field and probably the same union reps involved in
20 two or three different companies negotiating for the
21 employees.

22 How much of it is really confidential?

23 MR. ARMSON: I can't answer that, Mr.
24 Martel. I would only observe that where the
25 information is obtained by an individual, from whatever

1 source, one thing where it is obtained in some kind of
2 a process and, for which government is responsible, the
3 perception may be somewhat different. I mean, I just
4 make that as an observation.

5 MR. FREIDIN: Q. Mr. Armson, could you
6 illustrate, and I understand that you have in fact in
7 the material an illustration of how this woodflow could
8 be used to analyze a situation, a deficit/surplus
9 situation within any particular area.

10 Is that correct?

11 MR. ARMSON: A. Yes, that is correct.

12 And if the Board would turn to Document 59a in the
13 evidence, I have a representation of 59a which is a
14 tabulation and I will put that up on the overhead and
15 speak to it there.

16 The table is -- first of all, you will
17 note that it is a hypothetical table. I have used the
18 northern region and, as the Board will see, I will show
19 them a map of that region. But for purposes of how
20 this information might be used regionally.

21 There are a number of management units in
22 the region and I have segregated them into two groups
23 and identified them as A1, A2, A3, A4, and for the
24 first group and B1, B2, B3, B4 for the second group and
25 I will deal with the first group and then the second

1 group.

2 From the information derived initially
3 from the management plans and aggregated at the region,
4 the available maximum allowable depletion is listed
5 here as just the MAD, this is the available, and I have
6 used units in here. These units have no -- they are
7 just -- they are numbers. So from unit A1 there is an
8 available MAD of 883 cubic metres and this is conifer
9 and there is a commitment of 798. So immediately in
10 the table there it would show a surplus of 85 units.

11 Q. Are you equating commitment to
12 requirements?

13 A. This is the requirements as
14 identified in the timber management plan for the
15 licensee to draw wood from that unit.

16 Q. And are you equating then the two
17 terms?

18 A. These two equations. So, in other
19 words, the difference between the two results in either
20 no difference, a surplus or a deficit.

21 In the second unit, A2, there is an
22 available MAD of 187 and there is a commitment
23 requirements of 145, so there is also a surplus in this
24 instance of the magnitude of 42.

25 For the third unit, A3, the amount of the

1 available MAD is 668, but the commitments in that are
2 774, so there is a deficit here of the 106.

3 And for A4, the fourth unit, there is an
4 available MAD of 101, commitment of 123, and a net
5 deficit then of 22.

6 Now, you will note here that if - and
7 these are a group of units within the region and they
8 in fact are geographically connected - the total MAD
9 available, MAD 1839, and the total commitments are in
10 fact very close, they only differ by one.

11 So if you were looking at this as the
12 group within the region, you would say: Well, there is
13 no problem, there is only a very minor one. But for
14 the licensees related to A3 or A4, there are obviously
15 some major deficits. You have on the first two units
16 some very considerable surpluses. I have chosen these
17 particular units because they tend to be grouped.

18 So the first thing the region would look
19 at - and this is looking at it at a gross level, if you
20 will - within those group of units there is a
21 possibility of in fact balancing out, moving some of
22 the surplus from the regions that have surplus to the
23 regions and units that have deficit.

24 MR. MARTEL: Would that be all within the
25 same district, or could it in fact extend over into

1 another district?

2 MR. ARMSON: These could be -- yes, in
3 actual fact these could well be in an adjacent
4 district, adjacent districts, they don't necessarily
5 lie within the same district. And there are other
6 factors that come into this as you will see when I show
7 you that which is access, transportation routes, and so
8 on.

9 So the region would suggest in fact at
10 this point that one of the solutions to this problem is
11 to look at that moving of the surplus. The question
12 that immediately arises is: Is the surplus in A1 or A2
13 of the species that are in deficit in A3 or A4.

14 Now, we are beginning to get into some of
15 the detail. But at this point I am just -- at the
16 regional level they would look at this and very quickly
17 say: There is a possibility of substitution in here, a
18 movement of surplus. And the net result is you still
19 have within that group a net deficit for the four units
20 of, in this case, one unit, one management unit.

21 MR. FREIDIN: Q. And just in that
22 situation then, if at the region you didn't know
23 whether in fact A1 and A2 had the right species to deal
24 with A3 and A4's deficit, what would be done in that
25 situation or what could be done?

1 MR. ARMSON: A. You would look at
2 alternate sources and alternate forests, that is why we
3 will come down to the second group of units which lie
4 also within the region and these are the ones that I
5 have designated as B1, B2, B3 and B4.

6 Q. Just staying with the first one,
7 where would you find out whether in fact what species
8 were required in A3 and A4?

9 A. You would go back to the individual
10 management units, in the plans in those units, that is
11 where you would find that would be. And I am leading
12 the Board in a sense through this, but obviously the
13 region would have access to those data at the time.

14 The second example which is for the B1,
15 B2, B3 and B4 units has somewhat of a similar pattern.
16 The first two units have available MAD which is greater
17 than the commitment; 124 available for B1, 75 is the
18 commitment, with a net, therefore, surplus of 49 for
19 that first unit.

20 156 available MAD for the B2 unit, 142 is
21 the commitment, therefore, net surplus of 14. And then
22 for B3, an available number of 202, a requirement
23 commitment for 240, so a deficit of 38. And for the B4
24 unit available 104, requirement -- commitment 122,
25 therefore, a deficit of 18.

1 When you add those up in aggregate you
2 don't have a net deficit, as you had in the first
3 group, you have actually a surplus. But within the
4 four, there is in fact again an imbalance and you would
5 look to shifting the surpluses there so that you would
6 in fact provide for the commitments that are made here
7 and, in fact, you will notice that we still arrive at,
8 as we did here, with a net surplus of seven for the
9 four. We don't lose anything in there.

10 Now again, the caveat is that you are
11 looking here at the -- these would be, if you were
12 looking at real numbers, these would be in conifer
13 cubic metres or hardwood cubic metres. Those would be
14 dropping down to the species level.

15 Now, obviously if you look at these two
16 groups of units within the region, the deficit here is
17 more than -- presumably could possibly be compensated
18 from that group. So again we are looking at the
19 combination of these entities.

20 Q. And just for the record, you are
21 indicating that the deficit for A of minus 1 at the
22 right-hand side might be made up by the surplus from
23 the B group?

24 A. That's correct.

25 Q. Which is indicated as seven?

1 A. That's right. Now, this is
2 atabulation and this is the kind of process you would
3 go through obviously in some greater detail and with
4 larger amount of background information. The woodflow
5 system that is in place currently only produces tabular
6 data, but in main office there is also another program
7 that can work with it. It doesn't work all the time,
8 you have to envelope it in which you can present this
9 kind of information graphically and sometimes - if I
10 might just in parenthesis note, that sometimes you are
11 in fact dealing with possible strategies with senior
12 officials and so on, it is often easier to present the
13 information concerning the amount of wood at this
14 location in a graphic form rather than in tabular data.

15 This is an example that is developed by
16 the Timber Sales Licensing Branch and, as I say, this
17 capacity to produce computerized maps of the region is
18 new in main office, it is not part of the regular
19 woodflow system that can be used and, in this
20 situation, the management units for the northern
21 region, this is the real northern region, and these are
22 units, these are real units.

23 The locations of the mills are indicated,
24 if you look in the diagram, this is Document--

25 Q. 59b at page 263.

1 A. --59b. It is entitled: Northern
2 Region - Hypothetical Data - Surplus Declaration for
3 Conifer and it is on a time frame of the average annual
4 over the five-year period.

5 Q. So it also indicates that this is
6 before?

7 A. And this is before. The map shows
8 not only the outline of the northern region, but the
9 outline of the individual management units and the
10 locations of the five types of mills; that is, large
11 saw mills, pulp mills, paper mills, waferboard mills
12 and veneer mills in that region.

13 Also indicated - and this is drawn from
14 the combination of data that is in the woodflow
15 information system - is the order of magnitude of
16 surplus or deficit for each one of those management
17 units, and those are indicated in the legend on the
18 left-hand side just above the legend for the saw mills.

19 So that the red colouring is where there
20 is a deficit on an average annual basis that has been
21 identified as between 31-130,000 cubic metres.

22 In the hashed area, hashed to the
23 left and in black, where there is a deficit of 1 to
24 30,000 cubic metres and these were arbitrarily -- this
25 is a hypothetical example, so the categories are purely

1 arbitrary.

2 The units which are coloured green with
3 the green hashery, they are in balance, there is no
4 declared surplus - no declared surplus, there may be a
5 surplus, but there is a rationale for its use.

6 And then, similarly, the darker green
7 hashered areas, the yellow and the blue indicate units
8 where there is some surplus of the order of magnitude
9 of 1-30,000 cubic metres in the case of the green ones,
10 yellow 31-60, and the blue ones 61-90.

11 So, in other words, very immediately in
12 this map are a portrayal of where there is balance,
13 where there is surplus and where there is deficit.

14 Then the numbers can then be used and, as
15 a result of moving surpluses around in relation to the
16 area -I might note that the numbers are not indicated
17 on the map, but the group of A1, 2, 3, 4 mills or units
18 were these four in this top left-hand corner and the
19 group of B1, 2, 3, 4 mills that I have referred to is
20 down in here. (indicating)

21 Q. And, Mr. Armson, I believe the
22 numbers -- or the numbers are in fact indicated on
23 Document 59b at page 263?

24 A. Yes, they were indicated in the
25 chart. And they were selected, as I indicated, because

1 of proximity, one to the other, and also in relation to
2 the general access in terms of both road and rail was
3 available.

.4 On the charts that I am using now, those
5 numbers are not indicated.

6 Q. And before you just leave that, was
7 there any special reason for using the numbers that you
8 have indicated on the left-hand side with the colour
9 legend, the 31-130, 1-30; was there any special reason?

10 A. Those are arbitrary. There is no
11 particular reason for that. The order of magnitude was
12 one that, in discussion with the staff, thought that
13 would be not an unrealistic order of magnitude.

14 Q. Okay.

15 A. So following a balancing process, if
16 you will, consultation with the managers involved in
17 the mills, there is within that region then the
18 opportunity -- an opportunity to balance. If it can be
19 balanced, then in fact as a result of the process - and
20 I am emphasize, again, hypothetical - what has been
21 accomplished here is a movement of wood, a
22 rationalization of the woodflow from unit to unit, of
23 units of surplus, to mills which were dependent on
24 units where there was a deficit.

25 And in this hypothetical example, what

1 has happened is a balance in which there is in fact a
2 small surplus part of the area and two units, indicated
3 as yellow in this particular map, a somewhat larger
4 surplus.

5 I use this hypothetical example merely to
6 show how this can be used to deal with imbalances at
7 the regional level, but also that at the provincial
8 level, when you have these portrayals from the regions,
9 then you can begin to look at possible strategies for
10 the future in terms of utilization of wood supply.

11 Q. On the document which is now on the
12 screen which is Exhibit 59c, there are some red lines
13 running through the area. It is not on your slide. If
14 you take a look at the actual document in the book.

15 A. Yes.

16 Q. Page 264.

17 A. Yes.

18 Q. What are those red lines?

19 A. Those are the highways. The one
20 running from the bottom right-hand corner through to
21 the top left is Highway 11. And the one running down
22 through to the south is the one running from -- through
23 Timmins and down onto Chapleau.

24 Q. Which one?

25 A. That is the one starting

1 approximately in the area of the unit entitled B4 and
2 running down through to the left-hand column.

3 There is a third red line that breaks off
4 and goes immediately below that through the unit
5 labeled B2 and that is the main highway down to --
6 through Gogama to Sudbury.

7 Q. And what role does transport have
8 here -- access, either highway or any other sort, play
9 in this woodflow analysis?

10 A. It plays a major role in that both
11 roundwood and chips will flow normally over those
12 highways.

13 Q. And when you were looking to other
14 units to make up a local shortfall, is the distance
15 within which the supply -- from which the supply may be
16 obtained a consideration?

17 A. Yes, it is. As I indicated to the
18 Board, the A units that I used in the hypothetical
19 example are in the top left-hand corner and, therefore,
20 there is a relatively - in terms of a radius of
21 supply - a relatively smaller one, similarly with the B
22 units down towards the bottom right-hand part of the
23 figure that we are talking about.

24 Q. Could this system, if employed,
25 result in movement of wood between regions?

1 A. Yes. And, in fact, the system --
2 independent of the system, wood is flowing between
3 regions. Now, this provides a more sophisticated way
4 of really in fact tracking that.

5 MR. FREIDIN: Those are my questions of
6 this panel.

7 THE CHAIRMAN: Very well, Mr. Freidin.

8 I think at this time we will break for
9 lunch and then, when we return, I guess we will
10 commence with Mr. Tuer and then proceed from him to Mr.
11 Castrilli.

12 I do not know whether Mr. Edwards is
13 going to be returning for any cross-examination or not.

14 MR. FREIDIN: He indicated to me that he
15 would be and he would probably be about three hours.

16 THE CHAIRMAN: Very well. We will follow
17 on with Mr. Edwards and then we will go to Ms. Seaborn.

18 Have you been following along?

19 MS. SEABORN: Yes, Mr. Chairman. Just
20 yesterday I wasn't here.

21 THE CHAIRMAN: I see. Very well. And
22 then we will end up with the Ministry of the
23 Environment, for this panel.

24 With some luck we may finish this panel
25 this week. Is that the -- you do not think we will?

1 MR. FREIDIN: It has always been my
2 intention that this panel would take all of next week.
3 Mr. Castrilli has indicated that he is going to be
4 three days in cross-examination.

5 THE CHAIRMAN: Oh.

6 MR. FREIDIN: So I have been going on the
7 assumption that we wouldn't get -- that we would get
8 finished next week but just. And, in that regard, I
9 mean, even if we -- my estimate of four to six days was
10 right on, for direct.

11 It would be my submission that if next
12 week we get into, you know, Tuesday or, let's say, into
13 Wednesday - which it looks like we are going to - that
14 I would not want to start four and have the
15 evidence-in-chief broken up by three weeks.

16 THE CHAIRMAN: Right.

17 MR. FREIDIN: And it is my -- it's
18 certainly my desire that this panel could complete and
19 that we don't start four until we return.

20 THE CHAIRMAN: And was it still your
21 intention that we would have some kind of orientation
22 here with respect to the site visit?

23 MR. FREIDIN: I am not too sure. I was
24 discussing that with Mr. Kennedy earlier. Perhaps I
25 can -- I will advise you when we reconvene after lunch.

1 THE CHAIRMAN: All right. Very well. I
2 think we will break until two o'clock.

3 Thank you.

4 ---Luncheon recess at 12:15 p.m.

5 ---Upon resuming at 2:00 p.m.

6 THE CHAIRMAN: Thank you. Please be
7 seated.

8 Mr. Tuer, you have the floor.

9 MR. TUER: Finally -- no, I haven't.

10 MR. MARTEL: No, you don't.

11 THE CHAIRMAN: You had it.

12 Mr. Freidin?

13 MR. FREIDIN: In relation to questions
14 from Mrs. Koven about whether the Documents 57a, b, c
15 and d arrive at the Ministry at one time, the answer is
16 yes. They are all part of a large document which is in
17 fact submitted all at the same time.

18 THE CHAIRMAN: Mr. Tuer, you indicated
19 yesterday that you were treating this part in terms of
20 cross-examination.

21 Are you opposed in interest to this area
22 of the testimony? Well, what is your position if you
23 can put it in one camp or the other, on this panel's
24 evidence?

25 MR. TUER: On this panel's evidence,

1 there is no serious controversy between this.

2 I don't propose to -- let me put it this
3 way, I recognize my responsibilities when I am
4 cross-examining a party of substantially the same
5 interest, I will keep that in mind.

6 I am going to be really very short, but I
7 will be...

8 THE CHAIRMAN: Okay. Very good.

9 CROSS-EXAMINATION BY MR. TUER:

10 Q. Dr. Osborn, you spent a considerable
11 amount of time last week discussing the definition of
12 sustained yield. You dealt with the definition in
13 paragraphs 5 and 6 of the witness statement.

14 I just want to remove any confusion that
15 might exist with respect to your definition of a
16 perfectly normal forest which is found at page 96 of
17 the witness statement.

18 I haven't read the transcript, but my
19 notes indicate that when you discussed this statement,
20 you discussed only the last two or three items.

21 Is it the case that in fact none of the
22 requirements, Items 1 to 8, are in fact realistically
23 attainable?

24 DR. OSBORN: A. No, that's not
25 completely true. If you go through the list of Items 1

1 to 8, on page 96, there is at least one I can quickly
2 glance through that is quite possible.

3 Q. No. 8?

4 A. That also is true, although that
5 wasn't the example I was looking at.

6 Q. Go ahead.

7 A. No. 5 also is biologically possible
8 and with some species actually does occur.

9 Q. But, in fact, it is not a realistic
10 prospect that that is going to happen very often, if at
11 all?

12 A. Correct.

13 Q. So what we are looking at is a goal
14 that could be reached for but seldom if ever attained?

15 A. Yes, I was weighing the statement in
16 light of the first part. I can concur with very easily
17 the second part. I am hesitating about...

18 Q. Because of what you just said?

19 A. Because of my thoughts about the
20 attainment that is possible under some circumstances.

21 Q. You certainly will never get the
22 majority of those items being attained in the real
23 world?

24 A. This is true.

25 Q. Now, just as a matter of

1 housekeeping, in my book of the witness statement on
2 page 129 to 133, there is a copy of the Ontario Forest
3 Management Units, 129 to 133 are the are major types of
4 management units in Ontario.

5 And the first one is reproduced as
6 Exhibit 82, which is behind you on the bulletin board.
7 The copy in the witness statement does not contain any
8 of the management unit identifications which appear on
9 the following page, starting at 130.

10 Is there in fact a map which does contain
11 that information such as we see in Exhibit 82?

12 A. Yes, there is.

13 Q. Is that one that could be made
14 available to the parties?

15 A. Yes, it could be.

16 Q. Thank you. I take it that wasn't
17 reproduced because inserting into the book you wouldn't
18 be able to read it?

19 A. Exactly.

20 Q. Now, page 33, paragraph 63.

21 THE CHAIRMAN: Dr. Osborn, you are going
22 to be undertaking then to produce a copy of or some
23 kind of reproduction of Exhibit 82 to the party; is
24 that correct?

25 MR. FREIDIN: Yes. We will undertake to

1 provide that map.

2 THE CHAIRMAN: Thank you.

3 MR. TUER: Q. Here we are talking -- on
4 page 33 in paragraphs 62 and 63, we are talking about
5 OPC, your operational cruises, and in paragraph 63 you
6 have written:

7 "The decision whether any of this
8 additional information is required or
9 practical is made by the forest
10 manager... "

11 Now, I understand that there are three
12 possibilities here as to who the forest manager is,
13 dependent upon what kind of management unit we are
14 talking about.

15 It could be an FMA; am I correct?

16 DR. OSBORN: A. The three kinds of
17 management units could include an FMA, yes.

18 Q. And a company management unit and a
19 Crown management unit?

20 A. Correct.

21 Q. Now, in the case of the FMA, who is
22 the forest manager, is that a company employee?

23 A. I am in no position to describe the
24 exact who is doing what at the district level, and this
25 was explained in the evidence, I am not party to

1 ongoing operational details.

2 I wrote that evidence as the forest
3 manager in a generic sense to explain what the process
4 was about. I do not know - and I am under oath - I do
5 not know exactly who is the forest manager for each of
6 the three examples.

7 Q. You don't know in the case of the FMA
8 whether it's a corporate employee or in the case of the
9 Crown management unit whether it is a Crown employee?

10 A. What I am saying is for three units I
11 don't know, and I don't know here under oath, the
12 answer to that question.

13 Q. That's fine. Now, do you know
14 whether in practice, at least with corporate management
15 units and FMAs, that invariably additional information
16 that is required is obtained by operational cruises?

17 A. Can you rephrase the front of that
18 question, please.

19 Q. Well, you have said the decision
20 whether any of this additional information is required
21 or practical is made by the forest manager.

22 I got the implication from that that it
23 is suggested that there may be occasions when no
24 additional information is obtained.

25 A. That is correct.

1 Q. In the case of corporate company
2 management units or FMAs, would you agree that
3 invariably additional information was obtained by
4 operational cruising?

5 A. From what I understand in discussion
6 with company foresters, it is not always that an
7 operational cruise is conducted.

8 Q. But some supplementary information is
9 obtained; would you agree with that?

10 A. Again, you would have to go through
11 company by company, location by location to answer that
12 question. Now, I don't have that sort of information
13 at hand and if I think company by company -- I would be
14 hard pressed to think of an instance when additional
15 information of same shape or form was not required,
16 whether it be OPC or not.

17 Q. Now, in connection with OPCs, you
18 gave us an equation on the sampling, N equals T squared
19 times the co-efficient of variation squared over E
20 squared.

21 And, as I understood the example you
22 used, to get a 5 per cent margin of error--

23 A. That was the arithmetic we went
24 through.

25 Q. --you required a sampling of one in

1 four trees or 25 per cent?

2 A. With certain assumptions in the
3 calculation, yes.

4 Q. But that is not in fact what -- first
5 of all, that is not practical in the real world of
6 thinking; is it?

7 A. Within the area of the undertaking I
8 can't think of a product that would cause -- the value
9 of which would cause that to be a fact of life.

10 Q. Especially in the boreal forest?

11 A. And it comes back to, therefore, what
12 should be the acceptable error, which was a managerial
13 decision.

14 Q. And you said you understood that the
15 one to three per cent intensity of sampling is what in
16 fact occurs at least in the boreal forest?

17 A. That is typically the average that is
18 practised.

19 Q. What degree of error would result in
20 that?

21 A. It would depend entirely as the
22 question showed you on what was the co-efficient of
23 variation or the variance for that population you were
24 sampling. And because that is a number that I cannot,
25 off the top of my head, tell you unit by unit, I cannot

1 estimate without that knowledge what the error might
2 be.

3 Q. Well, on average, I mean, obviously
4 we are talking about a large territory in area.

5 You said that you understood the
6 intensity of sampling was one to three per cent. Do
7 you have any idea of -- have you been told on average
8 what margin of error we are talking about?

9 A. No.

10 Q. You have no idea?

11 A. No.

12 THE CHAIRMAN: Can you work it out in any
13 way in rough approximations by saying a one in four is
14 a 25 per cent sampling, a one to three per cent
15 sampling would work out to be X number of trees?

16 DR. OSBORN: That part, Mr. Chairman,
17 yes, you can easily do. A one per cent sample is
18 essentially one tree in a hundred. And the reason for
19 number of trees in a hundred was to illustrate what
20 does a five per cent, 25 per cent sample mean in sort
21 of non-technical terms.

22 The question being asked is what might be
23 the magnitude of the error if I take a one to three per
24 cent sample. And my argument is that you need to know
25 the variability for the population in question and

1 another item.

2 THE CHAIRMAN: But if you have an idea
3 that that is in fact what happens in the real world,
4 have you not worked out, in general terms,
5 percentage-wise what the margin of error might be?

6 It would be obviously a lot larger than
7 five per cent.

8 DR. OSBORN: Yes, to the second question,
9 but no to the first question you asked because I gave
10 back to the counsel: I have not worked personally with
11 operational cruise numerics and so I cannot provide an
12 estimate for the question you pose and neither could
13 anybody else without some further information.

14 The example that was cited dealt with the
15 error if you measure at the stand level. And as I
16 pointed out in the evidence, the estimate at the stand
17 level are frequently not used, it is often used for an
18 aggregate of stands.

19 Again, I would need to know: Are we
20 dealing with one stand, five stands, so there is a
21 range of data required in addition to that which you
22 provided before such an estimate could in fact be
23 worked out.

24 MR. TUER: Q. Well, I won't question
25 you, Dr. Osborn, but I gather from what you are

1 saying - just following on what the Chairman said -
2 that you don't have any idea the margin of error under
3 which industry works in general in this province.

4 . Is that where we are left?

5 DR. OSBORN: A. At an operational cruise
6 level, the answer is yes.

7 Q. Would you go to page 231, please?

8 A. This is a schematic of OPC work,
9 1982-1987, and on the next page, 232, is the cost of
10 that OPC work, and on the next page, 233, is the cost
11 per square kilometre of FRI-OPC 1983-1987 in
12 comparison.

13 Am I correct, Dr. Osborn, that in each
14 one of those cases the work and the dollar value that
15 you have got beside them relate only to expenditures
16 made by the Ministry of Natural Resources, it does not
17 include any contribution from industry?

18 A. Correct.

19 Q. And just looking at the map behind
20 you, Exhibit 82, would you agree that the very
21 substantial area of the undertaking is in fact FMAs?

22 A. Yes.

23 Q. And that in that case all of the OPCs
24 are performed by the company party to the FMA?

25 A. If they do them.

1 Q. If they do not do them, they pay for
2 them; do they not?

3 A. My statement says, if anybody
4 physically does them, like in the company.

5 Q. I am sorry. Sure, all right.

6 If they are done, they are done by the
7 company?

8 A. That is the case on FMAs.

9 Q. And what about company management
10 units, the cost of those is borne by the company; is it
11 not?

12 A. I believe so.

13 Q. So we are -- what we are left with is
14 the Crown management units and those are the dollars
15 represented on these schematic drawings at page 232 and
16 233?

17 A. Correct.

18 MR. MARTEL: Could I just ask a question
19 just for clarification. On the Crown -- or the company
20 management units and the FMAs, are all of the OPCs done
21 exclusively by people hired by the companies?

22 DR. OSBORN: To the extent that they are
23 done at all, Mr. Martel.

24 MR. MARTEL: Yes.

25 DR. OSBORN: It is my understanding that

1 the responsibility for operational cruising on company
2 and certainly on FMAs because it is part of the
3 agreement, they are the responsibility of the company,
4 either directly or indirectly through hiring of some
5 staff.

6 MR. MARTEL: And the cost is all borne...
7 DR. OSBORN: And the cost is borne by the
8 company.

9 MR. MARTEL: Thank you.

10 MR. TUER: Q. You mentioned the other
11 day as an example of -- in answer to a question
12 respecting company participation, and I am not sure
13 whether it was developing FRI or an FMA, Kimberly-Clark
14 was the given exception.

15 Do I gather that that company was an
16 exception in that instance only because it wasn't on
17 the scene at the time?

18 DR. OSBORN: A. The question that was
19 posed to me I had to really think hard of an example at
20 all. To that extent, it was an exception. It was an,
21 exception, not because the company wasn't on the scene,
22 as I heard you say, the company existed in Ontario, but
23 the area under concern in the question, was an area
24 that the Crown had inventoried previously.

25 Q. And there are rare cases as you

1 mentioned. Is that a situation where the Crown would
2 be reimbursed for the expenditures in connection with
3 that licence area?

4 . A. Okay. The Crown was reimbursed, as I
5 was asked, for 50 per cent of the costs of its effort,
6 the Crown's effort in doing the inventory on that
7 location.

8 Q. And that would be a normal provision;
9 would it not?

10 A. At this point in time, and in fact
11 over the last 20 years plus, the forest resource
12 inventory workload has been shared between company,
13 large company and Crown. It has been a work sharing
14 and that is why the example I quoted was an exception,
15 no money changes hands. There is a work sharing.

16 Q. I see. So that is an exceptional
17 case?

18 A. Because of the circumstance as
19 explained.

20 Q. All right. Now, in your discussion
21 about the MAD calculation yesterday, you referred us to
22 page 243. Is that calculation at average age
23 acceleration?

24 A. On page 243, sir, there are a series
25 of equations. Could you explain, what you...

1 Q. I'm sorry, at the bottom.

2 A. The calculation at the bottom, as it
3 states and as was asked of me, is an example where the
4 average age effect is brought in to modify the normal
5 calculation. This may give rise to an acceleration or
6 a deceleration, as was explained.

7 Q. Well then, in a mature or overmature
8 forest then it gives rise to acceleration?

9 A. Correct.

10 Q. So how does that affect -- assuming
11 that the cutting is done every year, how does that
12 affect an apparent surplus in a mature forest or a
13 forest that is largely mature?

14 A. If, as you describe, the cutting is
15 done- and by that statement I assume you mean that the
16 maximum allowable depletion is taken - there is no
17 surplus, as Mr. Armson explained this morning.

18 Q. Well, If a surplus is declared,
19 however, if you look at page 248. You took us through
20 that schematic and pointed out that in this example we
21 are dealing with a forest which is largely mature; is
22 it not?

23 A. Correct.

24 Q. Now, if a surplus is declared the
25 first year by the company which owns the -- which

1 operates the FMA - as it's obliged to do, if there was
2 going to be a surplus - is it the case that five or 10
3 years down the road that surplus may in fact not exist
4 because of the accelerated cutting during the first
5 five years of the growth?

6 A. No is the simple answer to your
7 question. And if we want to come back to the schematic
8 on page 248--

9 Q. Yes.

10 A. --You inferred a surplus was
11 declared, you stated a surplus was declared. The
12 inference is the total 200 permissible - and this
13 example doesn't speak about acceleration, but given
14 that it did - the total 200 that was calculated would,
15 in reality, not be taken otherwise there wouldn't a
16 surplus.

17 Now, if the 200 is not taken that will
18 have an impact on what the forest may look like at the
19 end of the planning period. If you don't take the
20 whole 200, in the end of the planning period the base
21 will be not as diminished as it was if you took the
22 entire 200. The forest will still be relatively
23 overmature, exactly how much would depend upon the
24 amount of less than 200 you were taking.

25 Q. All right. If you take the 200--

1 A. Okay.

2 Q. --what happens then?

3 A. There is -- okay, if we take the 200
4 we have no surplus situation.

5 Q. All right.

6 A. If we take the 200 as was described
7 between pages 248 and the ensuing picture on page 249--

8 Q. Yes.

9 A. --given all the assumptions that were
10 in that hypothetical example, the forest now is
11 expected to look like that which is given on page 249.

12 Q. But you won't -- in that ensuing
13 period you will not have the same amount of wood for
14 cutting that you had before you took the entire mature
15 forest?

16 A. No, if you recalculate -- if on page
17 249 -- all right, we are now at page 249, we are now of
18 what the forest presumably will look like 20 years down
19 the road in this hypothetical example.

20 If on the bottom line of page 249 we
21 recalculate using the same assumptions that were given
22 on page 248, we will still cut 200 hectares and they
23 will still in the assumptions in this model come from
24 the oldest age-class and we will cut, if you look at
25 page 249, we will cut the 120 hectares in the 121-140

1 age-class and the ensuing 80 out of the 101-120
2 age-class.

3 Q. Well, is it your position that the
4 company should always cut the oldest?

5 A. Okay. No, this was explained, that
6 that was a way of doing business, certainly in the
7 1980-1981 start of the FMA process.

8 In all honesty it was done for a very
9 deliberate reason and has given rise to some
10 understanding of what allocation and impacts are on the
11 forest, such that now the position is the age-class are
12 one of several criteria that were cited in the EA
13 Document on page 230, one of several criteria used in
14 the allocation; which is, where do I take the MAD.

15 Q. Yes. So, following upon what Mr.
16 Armson said this morning, the Ministry does recognize
17 the storage on the stump, so to speak, in allocation?

18 A. Yes, it does.

19 Q. And it does permit allocation from
20 less mature stands.

21 A. Yes, it does.

22 Q. In the face of the fact that the
23 whole allocation could be taken out of the most mature
24 forest?

25 A. If there were -- if the criteria were

1 met that were in the planning document, that is a
2 possibility, certainly.

3 Q. And that is a matter of flexibility
4 which is negotiated between the company and the
5 principal user?

6 A. Yes.

7 Q. Would you like to add to that, Mr.
8 Armson?

9 MR. ARMON: A. No, I would concur with
10 Dr. Osborn's comments. I believe that there has been
11 again some understanding about the oldest first. As
12 Dr. Osborn indicated, initially that was a position, it
13 was not a formal policy, but it was a position and
14 certainly the criteria as in the EA Document are the
15 ones that we go by now.

16 Q. How long has that policy been
17 changed, Mr. Armson?

18 MR. FREIDIN: What policy?

19 MR. TUER: Q. That practice.

20 MR. ARMON: A. I can give you a
21 statement -- the Deputy Minister of the day in, I
22 believe it was 1983, gave an address to the annual
23 meeting of the Canadian Institute of Forestry in which
24 he elaborated on the fact that although the oldest
25 first principle would be acknowledged, that there were

1 other factors that would then enter into a decision as
2 to what areas might be harvested.

3 That speech was a public...

4 MR. MARTEL: Can I ask a question because
5 I -- in the boreal forest, which are large stands,
6 massive stands, and the fact that we are just --
7 haven't been cutting that long really historically, how
8 often would we move away from the concept of oldest
9 first to consider other factors when, in fact, even now
10 some of the area we are cutting is probably virgin
11 timber?

12 How often would we use that?

13 DR. OSBORN: Mr. Martel, right now the
14 list of criteria that were used for the allocation are
15 given in the EA Document.

16 So right now all the time there is a
17 consideration of that range of criteria, one of which
18 is age-class, and that doesn't necessarily mean oldest,
19 but age-class. So right now the answer is everywhere
20 there is a consideration of all those criteria. So
21 everywhere there is a consideration of options and
22 alternatives that may or may not be oldest first.

23 MR. MARTEL: But I am just raising the
24 question because the forests have been relatively new,
25 particularly since the 1940s, how much have we had to

1 go back or to consider the oldest stands?

2 In other words, if we had to move to
3 other criteria in this short term in the history of
4 cutting in Ontario, maybe in southern Ontario one might
5 have to look at it, but in the north, why would -- how
6 significant would be the other criteria as opposed to
7 oldest when one is considering what we are going to
8 take in a massive forest like boreal forest?

9 Do I make myself clear?

10 DR. OSBORN: Yes, sir, I think -- yes.

11 The theory of oldest first was predicated on the idea
12 that the oldest was the likely trees to die first and
13 we wanted to get them before they died, get them in a
14 timber utilization sense,

15 Recognizing, as was shown I think in a
16 figure yesterday that I showed out of Dr. Baskerville's
17 Report, that absolute age oldest within a working
18 group, as we showed, may or may not be, even from an
19 age alone criteria, the most sensiblist thing to
20 practice because the better quality trees may in fact
21 die at age 90 and the poorer quality trees in the same
22 working group may last until 120 and still be vigorous.

23 So that simple criteria of oldest first
24 had with it some caveats that have gradually been
25 explored and better understood and we have realized

1 that we need to have a better set of material than that
2 simplistic measure that was used as a guideline back
3 certainly in the 70s.

4 MR. TUER: Q. Can you direct us to the
5 place in the EA Document where the criteria is...

6 THE CHAIRMAN: I think it is page 139.

7 MR. TUER: Thank you.

8 Q. Page 139 headed Criteria, is that the
9 page you are referring to, about halfway down the page?

10 DR. OSBORN: A. That's correct, line 21.

11 Q. Yes. There are a total of seven
12 criteria listed?

13 A. Correct.

14 Q. On page 130 there is a discussion
15 dealing with the criteria starting at line 23?

16 A. Well, starting on page 13 -- line 13,
17 sorry, on page 130, line 13 starts the words that set
18 the scene for those criteria starting on line 24.

19 Q. That's fine. I just wanted to get it
20 on the record anyways. Thank you.

21 MR. TUER: Those are all my questions.

22 THE CHAIRMAN: Thank you, Mr. Tuer.

23 Mr. Castrilli, I understand that you want
24 some time, a brief amount of time to set up before you
25 commence your cross-examination?

1 MR. CASTRILLI: Well, I have actually
2 taken most of my documents to the front. Perhaps if
3 you would just give me a moment's indulgence we can
4 proceed without break.

5 THE CHAIRMAN: Very well.

6 For those of you who are interested, just
7 as an aside, and have been following the newspapers,
8 the wild boar that has been terrorizing residents of
9 Darwin, Australia last night chased a man around his
10 backyard and fell into a swimming pool where he was
11 captured and shot.

12 MR. CASSIDY: The man or the wild boar?

13 THE CHAIRMAN: Pardon?

14 MR. CASSIDY: The man or the wild boar?

15 THE CHAIRMAN: The boar. Evidently it
16 has been tearing dogs apart and people apart and chased
17 a couple of people.

18 MR. FREIDIN: And I understand from Mr.
19 Armson that they are actually going to bring that boar
20 here to be used for hog fuel.

21 THE CHAIRMAN: I thought we needed a
22 light moment, Mr. Castrilli, before we really got
23 rolling.

24 MR. CASTRILLI: I'm ready to proceed.

25 THE CHAIRMAN: Very well.

1 I am not sure that that microphone is on.

2 Okay.

3 MR. CASTRILLI: It is clearly on. Can I
4 be heard?

5 CROSS-EXAMINATION BY MR. CASTRILLI:

6 Q. Okay. I will deal with Dr. Osborn.

7 I understand from your testimony, Dr.
8 Osborn, that the purpose of the undertaking is to
9 provide a continuous and predictable supply of wood for
10 Ontario's forest products industry.

11 I believe you stated that several times;
12 is that correct?

13 DR. OSBORN: A. Yes, sir.

14 Q. And would you agree with me that the
15 purpose of the undertaking should be broader than that?

16 A. That was what I was given as the
17 purpose of the undertaking.

18 Q. I see. Well, for example, would you
19 agree with me that the purpose should be to provide a
20 continuous and predictable supply of wood for Ontario's
21 forest products industry consistent with sound
22 environmental practice and provision for other uses of
23 the forest?

24 Would that be a more reasonable way of
25 stating the purpose of the undertaking?

1 A. Not necessarily more reasonable, sir.

2 Q. And I presume it would not be a more
3 reasonable way for the Board to consider what the
4 purpose of the undertaking should be; is that correct?

5 A. I cannot comment on how the Board
6 wants to view that, sir.

7 Q. Can you confirm for me, Dr. Osborn,
8 that the Ministry of Natural Resources is seeking
9 approval for Exhibit 4, the Class Environmental
10 Assessment Document, and Exhibit 7, the Timber
11 Management Planning Manual?

12 A. I am unsure, but as far as I
13 understand there is approval for Document 4, but I am
14 uncertain as to whether in fact they are seeking
15 approval for Document 7.

16 MR. CASTRILLI: Mr. Freidin, can you...

17 MR. FREIDIN: The Ministry is not seeking
18 approval for the document which is Exhibit No. 7.

19 MR. CASTRILLI: Q. Well, let me ask you
20 this then: Would you agree with me that it would be
21 helpful to the Board if what it was approving in
22 those -- at least in Exhibit 4, as compared with
23 Exhibit 7, should be consistent one with the other with
24 respect to the purpose of the undertaking?

25 DR. OSBORN: A. Can you repeat the front

1 end of the question, please?

2 Q. Would it helpful to the Board if what
3 it was approving in Exhibit 4 was consistent with what
4 is in Exhibit 7 with respect to the purpose of the
5 undertaking?

6 A. Given that Document 7 is used an as
7 adjunct, as a prop to explain certain items, then yes,
8 that would be helpful.

9 Q. Well, isn't what I proposed earlier
10 as a revision to the purpose of the undertaking, which
11 is in paragraph 2 of your evidence, in fact what we
12 find in Exhibit 7 of the Timber Management Planning
13 Manual?

14 Do you have that document before you?

15 MR. FREIDIN: Mr. Chairman, I don't
16 really know whether debating whether the purpose of the
17 undertaking should be different.

18 It is my understanding that the
19 undertaking -- the purpose of the undertaking is in the
20 discretion of the proponent and it is the undertaking
21 as defined which the Board deals with. The Board
22 doesn't deal with whether in fact the undertaking
23 should be something different or not.

24 It can't approve, as I understand the
25 law, an undertaking which is different from the one

1 which is proposed.

2 THE CHAIRMAN: As well, Mr. Castrilli --
3 thank you, Mr. Freidin.

4 As well, Mr. Castrilli, did we not
5 entertain extensive argument at the outset of this case
6 as to what exactly would be before the Board for
7 approval, and I thought we had received relative
8 consensus - I am not sure if that included you or not
9 at the time - but I thought we received relative
10 consensus from other parties that the Board would be
11 looking at the four activities of harvesting, access,
12 renewal and maintenance and the impact of those
13 activities upon other uses of the forest.

14 And it was my understanding at that time
15 that the Ministry put forward document -- Exhibit No. 4
16 which is the Class EA Document which contains a
17 statement of purpose as they propose to describe it at
18 that time. And it was discussed before the Board in
19 argument by other parties as to what the parameters of
20 that application was before the Board so that we could
21 ascertain what type of evidence we would permit in the
22 course of this hearing, realizing that we did not feel
23 it appropriate at that time to go into a discussion of
24 every other purpose -- or sorry, every other use of the
25 forest except in terms of the impacts that might be

1 visited upon those uses by the Ministry conducting the
2 four activities described.

3 I do not know if you were here for all of
4 that, but you were certainly here for part of it.

5 Are you going beyond that now in these
6 questions?

7 MR. CASTRILLI: Mr. Chairman, I think if
8 you will permit me to proceed I think it will become
9 evident. I am not attempting to reargue the issue of
10 timber management versus forest management, for
11 example, if that's the import of my friend's objection.
12 I think it will be become clear in the next question
13 what I am getting at.

14 THE CHAIRMAN: Well, let's hear the next
15 question, if it is not clear we will be back at you
16 shortly.

17 MR. CASTRILLI: Q. Paragraph 4, page 1
18 of Exhibit 7. The top of page it is called
19 Introduction. Do you have that page, Dr. Osborn?

20 DR. OSBORN: Yes.

21 Q. The paragraph reads:

22 "The objective of the forest management
23 program on Crown land in Ontario is to
24 provide for an optimum, continuous
25 contribution to the economy by forest-

1 based industries consistent with sound
2 environmental practices and to provide
3 for other uses of the forest."

4 And the next sentence reads:

5 "The purpose of timber management
6 planning is to organize the activities of
7 harvest, renewal and the maintenance of
8 the forest to ensure the availability of
9 forest products from an area consistent
10 with this objective."

11 So if one reads the two sentences
12 together, timber management must be consistent with the
13 objective in the first paragraph and, as you will
14 recall, that is the quote I read into the record
15 earlier.

16 THE CHAIRMAN: Where did he get that
17 second statement from?

18 MR. MARTEL: Page 1.

19 MR. CASTRILLI: Sorry, paragraph 4.

20 THE CHAIRMAN: Yes, I have got that.

21 MR. CASTRILLI: Page 1.

22 MRS. KOVEN: Page 1.

23 THE CHAIRMAN: Oh, I am sorry, I'm on the
24 wrong page.

25 MR. CASTRILLI: The entirety of paragraph

1 4.

2 THE CHAIRMAN: Thank you.

3 MR. CASTRILLI: Q. Would you agree with
4 me, Dr. Osborn, that the inference to be drawn from
5 Exhibit 4 of your evidence, paragraph 2, is that only
6 actions concerning wood supply will be taken and
7 actions for managing other uses will not?

8 You do recall paragraph 2 of your
9 evidence, it is simply the statement of the purpose
10 section -- of the purpose of the undertaking.

11 MR. MARTEL: Can I ask where are you
12 quoting from from Dr. Osborn's evidence?

13 MR. CASTRILLI: From Dr. Osborn's --

14 MR. MARTEL: Is it page 18?

15 MR. CASTRILLI: Page 18, yes, paragraph
16 2.

17 MR. MARTEL: Paragraph 2, pardon me, I
18 was looking at something else. thank you.

19 MR. CASTRILLI: I think I said Exhibit 4.
20 Exhibit 4 simply restates the purpose section -- the
21 purpose of the undertaking but it is also stated in
22 paragraph 2 of Exhibit 78.

23 Q. The question again is: Would you
24 agree with me that the inference to be drawn both from
25 Exhibit 4, the purpose of the undertaking, and

1 paragraph 2 of your evidence is that only actions
2 concerning wood supply will be taken and actions for
3 managing other uses will not, simply because they are
4 not mentioned?

5 Is that a fair inference to draw?

6 DR. OSBORN: A. In the evidence I gave I
7 described those actions, that data, that spoke to the
8 purpose of the undertaking given on page 18, paragraph
9 2 of the testimony in Panel 3.

10 The statement that you quoted out of
11 Exhibit 7 was the objective of the forest management
12 program, not timber management, forest management
13 program, and I agree with the statement that you quoted
14 as regards the forest management program in Ontario.

15 And the sentence that comes after that
16 described those actions that were a means to that end.

17 Q. Is your answer -- sorry.

18 A. Those actions are the actions that
19 are part of the -- are the purpose of the undertaking.

20 Q. Let's look at the second sentence
21 again of paragraph 4 on page 1. It says:

22 "The purpose of timber management...",
23 which is what I believe you are now calling this
24 undertaking:

25 "...is to organize the

1 activities of harvest, renewal and the
2 maintenance of the forest to ensure the
3 availability of forest products from an
4 area consistent with this objective."

5 This objective, I think you would agree,
6 Dr. Osborn, refers to the previous sentence and that
7 sentence includes "consistent with sound environmental
8 practices and to provide for other uses of the forest";
9 do you agree?

10 A. Yes.

11 Q. So is your testimony -- what is your
12 testimony now with respect to the purpose of the
13 undertaking?

14 What is it that is MNR's position with
15 respect to what the purpose of the undertaking is?

16 A. As given --

17 MR. FREIDIN: The purpose of the
18 undertaking is clearly as stated in the Environmental
19 Assessment Document, and I don't think we are going to
20 get anywhere by repeated questions of witnesses as to
21 whether the purpose is any different.

22 The purpose is as it is stated.

23 MR. CASTRILLI: Mr. Chairman, sorry.

24 MR. FREIDIN: Whether or not the Ministry
25 in carrying out that purpose as defined, in doing it,

1 in a sound environmental way or through applying sound
2 environmental practices to provide for other uses of
3 the forest is, in my respectful submission, what the
4 Environmental Assessment Act would require of any
5 proponent and is what is required of this proponent to
6 demonstrate through its evidence, and it is the
7 Ministry's intention, through its evidence, to
8 demonstrate that it does in fact achieve the purpose or
9 strives to achieve the purpose of the undertaking as
10 defined in that manner and it is not --

11 THE CHAIRMAN: Well, even going beyond
12 that, Mr. Freidin, certainly under the legislation the
13 Board's decision would have to be based on any
14 undertaking defined by any proponent to be carried out
15 in a sound environmental fashion--

16 MR. FREIDIN: Exactly.

17 THE CHAIRMAN: --in so many words,
18 without paraphrasing the purpose section of the
19 Environmental Assessment Act itself which clearly sets
20 out what the purpose of that legislation is.

21 And, therefore, whether or not it is
22 stated in your purpose; it is implied, in my view, by
23 the legislation.

24 MR. FREIDIN: I agree wholeheartedly.

25 MR. CASTRILLI: Well, Mr. Chairman, what

1 I don't understand about my friend's argument is how,
2 in two different documents produced by the Ministry of
3 Natural Resources which purport to state what the
4 purpose and undertaking of timber management is, it is
5 state differently.

6 Sure, my friend can get up and yell about
7 the fact that this statute completely controls what
8 eventually will be the purpose in the outcome of this
9 hearing, but it is of interest, I submit, to know why
10 the Ministry is defining the purpose in two different
11 ways.

12 THE CHAIRMAN: But although it may be
13 interesting, what is the practical bottom line of their
14 being a difference for instance?

15 MR. CASTRILLI: Well, as I suspect my
16 case will show over the next two years, it will
17 probably influence how they decide to carry out the
18 various factors that constitute the undertaking. And I
19 think it is important to know from step one why they
20 decided to define the undertaking much more narrowly in
21 the Environmental Assessment as opposed to the Timber
22 Management Planning Manual which talks about the same
23 thing..

24 THE CHAIRMAN: Regardless of the
25 definition, Mr. Castrilli, you are free during the

1 course of putting in your own evidence or in
2 cross-examining other witnesses, to try and show that
3 whatever their practices are -- or their purported
4 practices are, they are not being carried out in a
5 sound environmental manner.

6 If you are successful, I would suggest,
7 that after all the evidence is in, the Ministry's
8 application would probably fail. If you are
9 unsuccessful, then presumably the application would be
10 approved.

11 MR. FREIDIN: Or terms and conditions
12 might be imposed upon it.

13 THE CHAIRMAN: Terms and conditions --
14 well, I say that -- I do not think anybody
15 realistically expects this application to simply be
16 approved or denied and, if approved, without
17 conditions. I mean, obviously if an approval is going
18 to be given, there will be terms and conditions.

19 But I guess what I am saying, Mr.
20 Castrilli, is what is the practical effect of a
21 difference in interpretation at this point in time?
22 How does it affect your trying to show exactly what you
23 want to show in any event?

24 MR. CASTRILLI: Well, Mr. Chairman, I do
25 believe it is important to know why the Environmental

1 Assessment Document was written differently from the
2 manual because it is the Environmental Assessment
3 Document that my friend has advised and Dr. Osborn has
4 indicated is what is going to be the subject of an
5 approval.

6 It seems to me that if - and he hasn't
7 given me an answer - that the two are consistent with
8 each other, then why not state them the same way.

9 THE CHAIRMAN: All right, Mr. Freidin,
10 let the witness, if he can answer, answer why the two
11 purposes are stated differently.

12 MR. FREIDIN: All right.

13 DR. OSBORN: In terms of the purposes,
14 the words that are given on page 18 as the purpose of
15 the undertaking:

16 "To provide a continuous and predictable
17 supply of wood, was the purpose of the
18 undertaking."

19 On page 1 of Exhibit 7, the second
20 sentence in paragraph 4, which essentially is the means
21 to the end that is stated in that purpose says:

22 "The purpose of timber management
23 planning is to organize the activities of
24 harvest, renewal, maintenance of the
25 forest..."

1 Which are the components of the
2 undertaking. So that second sentence in the first
3 paragraph says, those actions, those activities are the
4 means to the end; the end being that which is stated on
5 page 18.

6 MR. CASTRILLI: Q. That is not the
7 answer to the question, Dr. Osborn. The entire
8 sentence --

9 DR. OSBORN: A. That is the answer to
10 the question that the Chairman asked me to speak to.

11 Q. The entire sentence says:
12 "...consistent with this objective..."
13 And it clearly refers to the first
14 sentence in paragraph 4. And the first sentence in
15 paragraph 4 says:

16 "...with sound environmental practices
17 and to provide for other uses of the
18 forest."

19 My question is: Why has MNR striken from
20 the Environmental Assessment Document the last part of
21 the first sentence?

22 MR. FREIDIN: We haven't striken anything
23 from the Environmental Assessment Document.

24 MR. CASTRILLI: Well, it's not there, so
25 where is it?

1 MR. FREIDIN: That's right, it's not
2 there because it wasn't supposed to be there.

3 MR. CASTRILLI: Why wasn't it supposed to
4 be there?

5 MR. FREIDIN: With respect, Mr. Chairman,
6 I think these questions were put to the witnesses in
7 Panel No. 1. Mr. Monzon, the Assistant Deputy of
8 Administration and Mr. Douglas who is the head of this
9 section dealing with Environmental Assessment and
10 planning.

11 MR. CASTRILLI: I didn't put these
12 questions to either of them in Panel 1. This is the
13 witness who is talking about the purpose of the
14 undertaking, this is the witness for me to put that
15 question to.

16 THE CHAIRMAN: All right. Does the
17 witness know the answer to that question?

18 DR. OSBORN: No, sir, I don't.

19 MR. CASTRILLI: Q. Who does know the
20 answers to why the two were not made consistent? Who
21 made the decision to describe the purpose of the
22 undertaking?

23 MR. FREIDIN: I am not going to keep
24 getting up and objecting and objecting. I stated my
25 position on the record. I think this line of

1 questioning is improper.

2 THE CHAIRMAN: Okay, just one moment.

3 ---Discussion off the record

4 THE CHAIRMAN: Counsel, we do not want to
5 interrupt you just since you have gotten off the ground
6 so recently, but I think the Board wants to retire for
7 a very short time, for ten minutes, and consider the
8 line of questioning that you are pursuing and where we
9 are going to go at this point.

10 We will be back in ten minutes.

11 Thank you.

12 ---Recess taken at 3:10 p.m.

13 ---Upon resuming at 3:40 p.m.

14 THE CHAIRMAN: Thank you, ladies and
15 gentlemen.

16 I apologize for the extra delay, but
17 perhaps in the long run we may be able to end up saving
18 some time.

19 Mr. Castrilli, the Board has taken some
20 time to go over, in its collective mind, some of your
21 submissions and I want to read into the record, I guess
22 you might take this in the form of a ruling in
23 connection with this line of questioning.

24 The Board has considered the submissions
25 made by Mr. Castrilli with respect to the questions

1 asked of Witness Panel No. 3 related to the apparent
2 discrepancy between the definition of the objective for
3 the undertaking as put forward by the proponent in the
4 Environmental Assessment Document, Exhibit No. 4, as
5 amended in June, 1987 and that objective set out on
6 page 1 of Exhibit 7, being the Timber Management
7 Planning Manual dated 1986.

8 The Board has previously indicated that,
9 in its view, the proponent has the right to describe
10 its undertaking as it sees fit and must also comply
11 with the provisions of the Environmental Assessment
12 Act.

13 After protracted argument earlier in this
14 hearing, the Board stated its view that the undertaking
15 before it consisted of an assessment of four principal
16 activities comprising timber management being that of
17 harvesting, access, renewal and maintenance, and the
18 impacts arising out of these activities must be
19 considered in the context of other uses of the forest.

20 In addition, the Environmental Assessment
21 Act requires that all activities must be conducted in
22 an environmentally sound manner and, in the Board's
23 opinion, it does not matter whether or not this is
24 specifically stated in the objective or purpose of the
25 undertaking.

1 Accordingly, the Board is not prepared to
2 entertain further questioning on the wording by which
3 the purpose of the undertaking has been described in
4 the Environmental Assessment Document, Exhibit No. 4.

5 This will not preclude, of course, any
6 party from adducing evidence in an attempt to prove
7 that the activities for which the proponent is seeking
8 approval have been inadequately addressed from the
9 perspective of environmental protection and/or
10 non-timber uses.

11 So having considered that, Mr. Castrilli,
12 we would like you to move on with another area of
13 questioning, bearing in mind this ruling.

14 MR. CASTRILLI: Thank you, Mr. Chairman.
15 I do have some other questions relating to the
16 objective, they are not on the same point.

17 Let me ask one, and if we get into the
18 same problem, I will move on.

19 THE CHAIRMAN: Very well.

20 MR. CASTRILLI: Q. The same paragraph in
21 Exhibit 7, Dr. Osborn, on page 1, the objective is
22 stated as providing an optimum continuous contribution
23 to the economy.

24 Would you agree that the optimum or best
25 practice for timber and other uses could be different

1 than the supplying of a continuous and predictable
2 supply of wood?

3 DR. OSBORN: A. Yes, it could be.

4 MR. CASTRILLI: Mr. Chairman, I don't see
5 any difficulty with that question.

6 THE CHAIRMAN: No, I do not either at
7 this point. Keep going.

8 MR. CASTRILLI: I am very careful as I
9 work my way through these next two minutes.

10 THE CHAIRMAN: We keep a vigilant eye on
11 the matter. All right.

12 MR. CASTRILLI: Q. Would you agree with
13 me, Dr. Osborn, that used in the MNR sense, optimum and
14 optimization are at best jargon and bear no
15 relationship to the technical subject of optimization?

16 DR. OSBORN: A. No, and I was party to
17 the word optimum when it was originally formulated in
18 the objective and the intent when that was originally
19 formulated was not to use the word in a jargonistic
20 sense but very deliberately to use it in this
21 particular application, optimum in a socio-economic
22 sense, along with the rest of the statement about the
23 forest industries.

24 Q. Are you a socio-economist?

25 A. No.

1 Q. Wasn't what I just read into the
2 record the same concern that Dean Baskerville had about
3 that statement in paragraph 4 of Exhibit 7?

4 Do you have Exhibit 16?

5 A. Yes.

6 Q. Page 72, at the bottom left-hand side
7 of the page:

8 "Used in the MNR sense, optimum and
9 optimization are at best jargon and bear
10 no relationship to the substantial
11 technical subject of optimization."

12 Do you agree with that statement?

13 A. As I had just said, no.

14 Q. So you and Dean Baskerville disagree.

15 Did you ever have a discussion with Dean
16 Baskerville about your inclusion of the word optimum in
17 the objective?

18 A. I don't recall one.

19 Q. While we are still on Exhibit 16, the
20 assessment by Dean Baskerville continues at the bottom
21 of the that page.

22 "In the MNR sense optimum means feels
23 pretty good for now based on the..."

24 And over onto page 73:

25 "...judgment of the people now present."

1 Do you agree with that assessment by Dean
2 Baskerville with respect to what optimum means?

3 A. I am not even sure I would agree with
4 that statement on the bottom of the page either.

5 Q. Okay. Would you agree that the
6 approach used by MNR in its planning is not achieving
7 an optimum with respect to all values obtained from the
8 forest?

9 A. The statement in paragraph 4 on page
10 1 of Exhibit 7 is:

11 "Optimum continuous contribution to the
12 economy by forest-based industries."

13 That objective statement was a deliberate
14 effort to state that through the use of the
15 forest-based industries we would try to attain an
16 optimum continuous contribution to the economy.

17 Q. So is your statement that the
18 objective at paragraph 4 of Exhibit 7 doesn't at all
19 apply to MNR's involvement in the process?

20 A. No.

21 Q. So that it does include MNR's
22 involvement in the process?

23 A. Yes.

24 Q. So do you agree with the question I
25 asked you a moment ago?

1 A. Which was...?

2 Q. MNR planning is not achieving an
3 optimum with respect to all values obtained from the
4 forest?

5 A. I suppose I can't really answer that
6 if I think about it, that is all.

7 Q. You know that was also an assessment
8 of Dean Baskerville?

9 A. This objective statement of whether
10 or not our planning was making an optimum contribution
11 to the economy?

12 Q. No, that MNR's planning is not
13 achieving an optimum with respect to all values
14 obtained from the forest.

15 Page 73 of Exhibit 16, the first full
16 paragraph on that page.

17 A. Yes, that is the statement that Dr.
18 Baskerville makes.

19 Q. Do you agree with it?

20 A. With reservations, yes, particularly
21 with respect to the "all values obtained from the
22 forest". I am not quite sure exactly what Dean
23 Baskerville meant by "all values obtained from the
24 forest".

25 Q. Well, I believe he goes on at the

1 bottom of that same paragraph to indicate some of the
2 concerns he has with respect to optimization and
3 whether it is providing or even defining the best mix.

4 Let me just direct your attention to the
5 bottom half of the first full paragraph on page 73,
6 the sentence that begins:

7 "Thus on both grounds..."

8 Do you see that sentence?

9 A. I do.

10 Q. And reading to the bottom -- or,
11 excuse me, reading to three lines from the bottom of
12 that paragraph ending in the word "objective fuction".
13 Would you read that and advise whether you agree with
14 that assessment by Dean Baskerville?

15 A. "Thus, on both grounds it is safe to
16 say that an optimum mix of benefits is
17 not being achieved. The major problems
18 here are, first, because the non-timber
19 values are stated in fuzzy qualitative
20 fashion there is no defined best mix
21 that can be used as a measurable target.

22 And, second, primarily because of the
23 absence of measurable cause/effect
24 relationships the non-timber values are
25 achieved by applying constraints to

1 timber values rather than as part of a
2 combined objective function."

3 And I concur with that statement.

4 Q. Do you agree?

5 A. I concur.

6 Q. Thank you.

7 MR. CASTRILLI: Mr. Chairman, I think I
8 have successfully negotiated my way through the shoals
9 of the first part of my cross-examination, with one
10 exception.

11 THE CHAIRMAN: Presumably the second part
12 will be less perilous.

13 MR. CASTRILLI: The second part will be
14 longer.

15 THE CHAIRMAN: And less perilous.

16 MR. CASTRILLI: Q. Just one last
17 reference to Dean Baskerville, Dr. Osborn. The first
18 sentence in the second full paragraph on that page, I
19 will just read it quickly into the record, it is still
20 page 73:

21 "There is no reason to expect that
22 optimum value is being achieved from the
23 Crown forests despite the frequent use of
24 the word in planning documents."

25 Do you agree with that assessment?

1 DR. OSBORN: A. I am not sure on what
2 grounds Dean Baskerville made the front part of that
3 statement: "There is no reason to expect..."

4 Q. Well, I won't ask you to put yourself
5 in his position, but based on what we have already
6 discussed on the record with respect to pages 72 and
7 73, what is your opinion of that assessment?

8 A. There are certainly some units where
9 I would imagine that the optimum, per se, in this
10 particular planning period may well not be achieved.
11 And you may recall the objective was a long-term intent
12 recognizing in the short term you may not achieve that
13 as you move towards it.

14 So in some plans that Dr. Baskerville may
15 have looked at, that short-term value may not have
16 demonstrated the optimum for that set of circumstances.
17 So, yes, in some of the areas he looked at that
18 statement could well be true.

19 Q. Now, are you in a position to comment
20 on other management units that Dr. Baskerville would
21 not have looked at?

22 A. No, I am not.

23 Q. Now, I understand from your testimony
24 that a continuous supply of wood is provided by
25 practising sustained yield management; is that correct?

1 A. Correct.

2 Q. I see that's referred to on paragraph
3 6 of page 19 of your evidence. And the meaning you
4 aspire to this concept is found at, as I just said
5 paragraph 6, and the quote from, I believe it is --
6 well, it is referred to at the bottom of the page,
7 Kenneth P. Davis, Forest Management, 1966, and you talk
8 about -- or he talks about the purposes to attain a
9 sustained flow of products which may be continued
10 indefinitely even though at variable levels.

11 Is that a fair summation of the quote?

12 A. Yes.

13 Q. Would you agree with the general
14 proposition that forest regulatory technique should be
15 aimed or is aimed at organization of a forest to bring
16 about sustained yield of harvested products?

17 A. As was explained in my evidence,
18 sustained yield is one of the objectives that was
19 selected from an array of objectives of how to manage
20 the forest on that particular unit.

21 For the selection of sustained yield,
22 again as was explained in my evidence, the intent is to
23 organize the forest to supply industry today and to
24 continue to provide that supply of wood to industry in
25 the future.

1 So, yes, the organization of the
2 structure of forest to that end is a way of
3 implementing that objective.

4 Q. And would it be fair to say that
5 current harvest does not necessarily have to equal
6 current growth, but in the long run and on overage it
7 must?

8 A. The front half of your statement is
9 true, that the current growth and the current depletion
10 do not have to be equal and, again, we explained and we
11 demonstrated this to be the case.

12 In the long run, for the normal forest,
13 again as was explained, the growth and the depletion
14 are equal at that stable structure of a normal forest,
15 given the conditions for the normal forest are
16 appropriate at the end of reaching that state of
17 affairs. And there is evidence further shown that even
18 when you reach that state of affairs that may cause a
19 change in practices whereby the cut or the depletions
20 and/or the growth would be dissimilar again.

21 Q. So -- sorry, were you finished?

22 A. Yes.

23 Q. If I understand your testimony then,
24 you agree with the first part of my statement which
25 was: "Current harvest does not have to necessarily

1 equal current growth"?

2 A. Correct.

3 Q. You agree with that part. With
4 respect to the second part which was: "...that in the
5 long run and on average it must..." Your testimony is
6 you did not agree with that?

7 A. Again, I gave you two answers.

8 For the normal forest, all conditions
9 being fixed in a normal forest, the current growth will
10 and must equal the current rate of depletion.

11 THE CHAIRMAN: Dr. Osborn, you are
12 qualifying the answer to say that, yes - from what I
13 understand - yes, you agree with it if you are talking
14 about a normal forest.

15 DR. OSBORN: Absolutely correct, sir.

16 THE CHAIRMAN: Okay. But if you are
17 talking about anything other than a normal forest, what
18 is your answer?

19 DR. OSBORN: That is not a necessity.

20 THE CHAIRMAN: Thank you.

21 MR. CASTRILLI: Q. Dr. Osborn, I am
22 showing you a copy of excerpts from Kenneth Davis' book
23 on forest management which you quote at the bottom of
24 page 19.

25 Are you familiar with that?

1 DR. OSBORN: A. I have seen the book.

2 MR. CASTRILLI: Mr. Chairman, I would
3 like to make this the next exhibit.

4 THE CHAIRMAN: Exhibit No. 105. You
5 realize, Mr. Castrilli, that's the first one today.

6 ---EXHIBIT NO. 105: Excerpts from book entitled:
7 Forest Management: Regulation and
Valuation by Kenneth P. Davis

8 MR. CASTRILLI: Q. I refer you to page 6
9 of Exhibit 105. The first full paragraph on that page,
10 the last two sentences -- excuse me, the last sentence:
11 "Current harvest does not necessarily
12 equal current growth, although in the
13 long run and on the average it must."

14 Now, as you know, that sentence is -- and
15 the one just above it, follows directly on the quote
16 you just included in paragraph 6 of your evidence; is
17 that right?

18 DR. OSBORN: A. Yes.

19 Q. So I would assume that Mr. Davis is
20 of the view that current harvest does not necessarily
21 equal current growth and that you and he agree, and
22 that with respect to: "...in the long run and on the
23 average it must..." you and he seem to disagree; is
24 that correct?

25 A. No.

1 Q. No?

2 A. As was given to you as the answer to
3 "...must it in the long run..." for the normal forest,
4 the answer is yes. So in that circumstance I and Mr.
5 Davis would agree.

6 Q. Mr. Davis does not qualify his answer
7 with respect to whether the forest is normal or not?

8 A. No, he has not, at this point in the
9 text.

10 Q. Well, as far as this paragraph is
11 concerned he has not qualified the quote; has he?

12 A. No, he has not.

13 Q. Thank you.

14 Now, Dr. Osborn, continuing with you,
15 would you agree with the general proposition that in
16 general the maximum that a forest can yield at any time
17 is the growth that has accumulated up to that time?

18 Would you like me to repeat the question?

19 A. Yes, slowly, please, sure.

20 Q. Would you agree with the proposition
21 that in general the maximum that a forest can yield at
22 any time is the growth that has accumulated up to that
23 time?

24 A. Now, given that the yield of cut is
25 made up of the growth of the forest up to that time, in

1 the sense that the growth is laid down each and every
2 year on the trees and, in effect, it is the growth you
3 are cutting, at any point in time the entire forest has
4 been made up, its yield is made up of growth.

5 Q. So the answer to my question is yes,
6 you agree?

7 A. In that context, yes.

8 Q. Would it be fair to say that the
9 maximum yield that can be removed perpetually per
10 period should equal the growth per period?

11 A. No, and this is the question before
12 last you asked me. The maximum depletion that can
13 taken at any one point in time does not necessarily
14 have to be equal to the growth at that period in time.

15 Q. Dr. Osborn, I am showing you a copy
16 of yet another text entitled Forest Management by, this
17 time, a Lawrence Davis. I believe you have been given
18 notice of that document.

19 MR. CASTRILLI: I would like to make it
20 the next exhibit, Mr. Chairman.

21 Q. Do you recognize that document, Dr.
22 Osborn? It is an excerpt again, not the entire text?

23 DR. OSBORN: A. Understood and, no, I
24 have never seen this document before.

25 Q. But you have been given notice of it;

1 is that correct?

2 MR. FREIDIN: Yesterday.

3 THE CHAIRMAN: This will be Exhibit 106.

6 THE CHAIRMAN: Do you need a moment to
7 glance through this, Dr. Osborn?

8 DR. OSBORN: That may depend, sir, on
9 what the questions are, to tell you the truth.

10 THE CHAIRMAN: I do not know what the
11 questions are.

12 Mr. Castrilli, ask your questions. If
13 the witness needs a moment to read the excerpt, which
14 may enable him to answer the question, we will have to
15 give him a moment to do so.

16 MR. CASTRILLI: That's fine. Sorry, this
17 is Exhibit 106?

18 THE CHAIRMAN: Exhibit 106.

19 MR. CASTRILLI: I have to keep my Davises
20 straight.

21 Q. Page 41 of Exhibit 106. The last
22 part of the first paragraph says:

23 "In general, the maximum that a forest
24 can yield at any time is the growth that
25 has accumulated up to that time.."

1 A proposition you have already agreed
2 with, and then it says:

3 "....and the maximum yield that can be
4 removed perpetually per period equals the
5 growth per period."

6 And your answer to that question when I
7 asked it as a question was no. So you and Lawrence
8 Davis disagree; correct?

9 DR. OSBORN: A. No.

10 Q. How do you not disagree?

11 A. I will agree with the statement in
12 Davis for the situation of a normal forest that is
13 stable and at that point in time, when the forest is in
14 a normal state and that condition is to be perpetuated,
15 the growth that is removed per period -- sorry, the
16 yield that is removed per period is equal to the growth
17 that is removed per period and I have presented a
18 document, a diagram showing just that effect.

19 And the reason I will disagree with that
20 statement is: If those conditions were to change and
21 that situation not necessarily true, and again I gave
22 an example of how a perfectly normal forest taken up to
23 rotation 80 we had reached that state of affairs, and
24 at that time the growth and the yield would have
25 been the same.

1 If the conditions were to vary, as they
2 were in that example, to change the rotation from 80 to
3 60, we demonstrated that the growth and the yield
4 would differ.

5 MR. MARTEL: Could you repeat to I got
6 the forest at 80 and the growth and the yield if and I
7 didn't hear your word after that.

8 DR. OSBORN: Okay. We had the normal
9 forest, Mr. Martel, at age 80.

10 MR. MARTEL: Right.

11 DR. OSBORN: And on page 112 of Exhibit
12 78 there is a diagram in volumetric terms showing the
13 normal forest which, at that point in time, had been
14 managed to attain the normal condition with an 80-year
15 rotation.

16 At that point in time, when that state of
17 affairs had been achieved, the yield from that forest
18 would have equalled the growth from that forest. And
19 if we were to perpetuate that condition, all other
20 factors being equal, we would keep the forest looking
21 like page 112 and the yield would be exactly equal to
22 the growth. And under that set of circumstances I
23 concur with the quotation that was being read.

24 However, as was explained with reference
25 to the diagram on page 112, if circumstances were to

1 change - and the example I use was to change the
2 rotation from 80 years to 60 years and explain what
3 might cause that change - on page 113 were a range of
4 options of how we would take that forest on an 80-year
5 rotation, normality, to a new desired 60-year rotation.

6 Now, in the taking of those options the
7 growth rate of the forest and the yield would, in some
8 of those options, certainly have differed.

9 And so I disagree with the statement
10 under some circumstances.

11 MR. CASTRILLI: Q. Dr. Osborn, Lawrence
12 Davis is another expert in this field, do you know that
13 for a fact or are you aware of his reputation?

14 DR. OSBORN: A. No, sir.

15 Q. You are not aware of his reputation.
16 You are aware of the reputation of author of Exhibit
17 105, Kenneth Davis?

18 A. Yes, sir.

19 Q. And with respect to Exhibit 106, can
20 you confirm for me that Lawrence Davis is not making
21 the qualifier to his statement that I read into the
22 record that you are; is that correct?

23 A. On page 41 he is not, but if I had
24 the whole of the text, I would be interested to pursue
25 the whole of the text to see where that statement may

1 or may not be spoken to with the reference to changing
2 the objectives of management and the normal forest to
3 which one is trying to strive.

4 So without having the rest of the text I
5 cannot comment whether Mr. Lawrence Davis in fact has
6 any modification to that statement.

7 THE CHAIRMAN: Dr. Osborn, is the term
8 normal forest ever synonymous with something called a
9 fully regulated forest?

10 DR. OSBORN: Yes.

11 THE CHAIRMAN: Thank you.

12 MR. CASTRILLI: May I proceed?

13 THE CHAIRMAN: Yes.

14 MR. CASTRILLI: Q. So, Dr. Osborn, if I
15 understand your testimony to this point - and you can
16 correct me if I have your understanding of what I
17 believe -- or my understanding of what I believe you
18 are saying is that you do not agree with the statement
19 that you can only remove from the forest what is
20 growing in a non-normal forest; is that correct?

21 DR. OSBORN: A. You can remove from a
22 non-normal forest values other than that which is the
23 growth rate, which I think is the answer to the
24 question you asked.

25 Q. Yes, it is.

1 A. Okay.

2 Q. And so you do not agree that you can
3 only cut the increment that grows; is that correct?

4 A. Correct.

5 Q. Sorry, your answer was...?

6 A. Correct.

7 Q. Well, do you agree with me that the
8 term sustained yield management means the yield that a
9 forest can produce continuously at a given intensity of
10 management. Is that a fair general proposition of what
11 sustained yield management means?

12 A. If you include an intensity of
13 management in the stipulation of the rotation.

14 Q. Okay.

15 A. The rotation is a very key element in
16 this discussion.

17 Q. Would it be fair to say that
18 sustained yield management implies continuous
19 production plans so as to achieve at the earliest
20 practical time a balance between increment and cutting?

21 A. That is a nice ideal.

22 Q. A nice ideal. Dr. Osborn, I am
23 showing you Terminology of Forest Science, a document I
24 suspect you are familiar with;

25 Is that correct?

1 A. No, actually, I am not. I know of
2 the document, but I personally have never seen it. I
3 know of it.

4 Q. I understand it is a classic in its
5 field.

6 MR. CASTRILLI: Mr. Chairman, I would
7 like to make this the next exhibit.

8 THE CHAIRMAN: Exhibit 107.

14 MR. CASTRILLI: And the excerpt I have
15 included is from page 267 of the 1971 version of
16 Terminology of Forest Science.

17 I understand there is a 1983 version and
18 I have compared the two pages and they are identical,
19 but if my friend Mr. Freidin -- if the witness will
20 accept that, subject to verification, I would like to
21 proceed.

22 DR. OSBORN: I will accept.

23 MR. CASTRILLI: Q. Dr. Osborn, can I
24 refer you to the definition of sustained yield
25 management found on the right-hand column of page 267.

1 You will see there the definition is described as a
2 note:

3 "Sustained yield management therefore
4 implies continuous production so as to
5 achieve at the earliest practical time a
6 balance between increment and cutting."

7 Now, a moment ago you said that was a
8 nice ideal. Is that not in fact the standard statement
9 with respect to what sustained yield management means?

10 DR. OSBORN: A. A standard where, sir?

11 Q. A standard where? Let's go back to
12 Kenneth Davis, Exhibit 105, page 6.

13 A. Because it is not the standard in
14 Canada.

15 Q. It is not the standard in Canada.
16 Didn't Mr. Armson include an excerpt from Terminology
17 of Forest Science in Panel 2?

18 A. I believe so.

19 Q. So only certain things are a standard
20 in Canada from that document and not others?

21 A. I can only comment on the definition
22 of sustained yield and, within this country, this
23 particular definition of sustained yield, I can find
24 three different sources with three different
25 definitions. This is a subject that has been hammered

1 around by foresters and editors for many years.

2 Within this country, the Canadian Forest
3 Inventory Committee has a definition of sustained yield
4 which is not exactly the same as that written down that
5 you are quoting from document Exhibit 107.

6 Q. So you don't agree that this is a
7 standard statement of what sustained yield management
8 means?

9 A. I do not agree it is a standard
10 statement.

11 Q. But you agree with me that so far
12 Kenneth Davis, Lawrence Davis and the Terminology of
13 Forest Science have all characterized the definition of
14 sustained yield management the same way that I have
15 read into the record and you have commented on?

16 Basically, they all say: you cut what
17 grows.

18 A. With modifiers as to the time it
19 takes to achieve that and the fact that that value can
20 vary and that is very much the case in the first Davis
21 quotation that you read into the text.

22 Q. Well, let me, if I can summarize what
23 I think I understand your testimony to be to this point
24 on this particular matter.

25 You have relied on a quote from Kenneth

1 Davis which appears at page 19 in paragraph 6 which
2 seems to place an emphasis on a variable level of
3 woodflow and does not deal with the issue of only
4 cutting the incremental amount of timber that grows and
5 no more.

6 You didn't include, of course, the
7 entirety of Mr. Davis' quote which goes on to say
8 substantially the same thing as Lawrence Davis in the
9 Terminology of Forest Science.

10 So let me just ask you, Dr. Osborn: Can
11 you advise the Board as to how much variation the
12 Ministry of Natural Resources is expecting in any
13 particular year or in future years, since you seem to
14 prefer paragraph 6's definition of sustained yield
15 management in the concept variable levels?

16 A. The variation in any particular year
17 or any particular planning period will be a function of
18 trying to marry the two objectives of supplying the
19 industry in the planning period and the impact on the
20 forest structure in ensuing periods of time.

21 This was explained and this was
22 demonstrated, that in any planning period the amount
23 may be less than or greater than the growth.

24 Q. Excuse me, in any planning period
25 cutting may be less than or greater than?

1 A. The depletions may be greater or less
2 than the growth.

3 Q. Depletions.

4 THE CHAIRMAN: But is it correct that
5 your answer goes on to say, to marry the needs of
6 industry and its effect on the forest in subsequent
7 planning periods?

8 DR. OSBORN: Yes, sir, entirely. It's
9 the second of the objective statement, is to ensure
10 that the depletions do not prevent that continuous
11 supply being there in the subsequent planning periods.

12 MR. CASTRILLI: Q. Would you agree that
13 an operator must not cut more than the annual growth on
14 his licensed area?

15 DR. OSBORN: A. I will disagree, sir.
16 The operator on any particular year can cut more than
17 the annual growth on his licensed area.

18 Q. I believe you are familiar with
19 Kennedy. (handed)

20 A. Yes.

21 MR. MARTEL: What did he say?

22 THE CHAIRMAN: Kennedy.

23 DR. OSBORN: Kennedy.

24 MR. MARTEL: Kennedy.

25 THE CHAIRMAN: Yes.

1 MR. CASTRILLI: Mr. Chairman, these are
2 further excerpts from the Royal Commission on Forestry,
3 1947 known as the Kennedy Report.

4 THE CHAIRMAN: Very well. It already has
5 another exhibit as to other excerpts, so we will call
6 this Exhibit 108.

7 ---EXHIBIT NO. 108: Excerpts from the Royal Commission
8 on Forestry, 1947 known as the
Kennedy Report.

9 MR. CASTRILLI: Q. Now, Dr. Osborn,
10 before I ask you any questions on what is now Exhibit
11 108, would you agree with me that Commissioner Kennedy
12 was a Canadian?

13 DR. OSBORN: A. As far as I know.

14 Q. I refer you to page 183, the sixth
15 line down. Let's begin with the fifth line down and
16 what is Recommendation 11 on that page.

17 It says:

18 "On the other hand, an operator must not
19 cut more than the annual growth on his
20 limits."

21 Now, I understand in the 1940s the term
22 limits meant licensed area; is that correct?

23 A. As far as I understand too.

24 Q. Would you agree with me, therefore,
25 that Commissioner Kennedy in 1947, being Canadian,

1 stressing the need for sustained yield and cutting no
2 more than the annual growth on a licensed area. By the
3 way the reference to sustained yield appears at page
4 179 of Exhibit 108.

5 A. From what I read in the document on
6 page 179, at the bottom of the page, and what you are
7 asking me to comment upon on page 183, Commissioner
8 Kennedy was under the opinion that sustained yield
9 meant cutting the growth on an annual basis.

10 Q. Did Commissioner Kennedy get it
11 wrong?

12 A. Yes.

13 Q. I see. So now we have Kenneth Davis,
14 Lawrence Davis, the Terminology of Forest Science and
15 the Kennedy Commission all saying the same thing and
16 they all have it wrong; is that correct?

17 A. No.

18 Q. Well, which parts are correct?

19 THE CHAIRMAN: Do you want to go on and
20 explain the inconsistency with your last answer?

21 DR. OSBORN: Yes, sir.

22 The statements as read infer that
23 where -- that under some circumstances, and these are
24 not stated the way you have been quoting the evidence,
25 quoting the information, I am sorry, where the

1 statements are read, the growth and the yield should be
2 the same in which I concur under certain sets of
3 circumstances.

4 And the understanding from the authors
5 that you have quoted, I am quite convinced certainly
6 with the modern authors who we could discuss this with,
7 who know the background of where that theory came from
8 and understand the conditions under which I will concur
9 with that statement.

10 However, in the forests in Ontario, as
11 has been described, the growth rate of a very old
12 forest, the growth rate may be incredibly slow, in
13 fact, the growth rate on very old trees is in fact
14 negative.

15 Now, the inference behind that statement
16 is the growth rate from the old forest in Ontario, if
17 it was only cutting the growth rate, you would end up
18 with perpetuating that old forest older and older til
19 eventually it collapsed.

20 So under those circumstances we have
21 argued that before that collapse and die we should
22 harvest that and, in this case, the cut may well or the
23 depletions may well exceed that incredibly slow old
24 forest growth rate.

25 The other end of the spectrum is a young

1 forest whose growth rate -- growth rate may be
2 incredibly high, and we have noted that CAIs, current
3 annual increments, are very high in young stands and,
4 in that situation, you are advised not to cut that
5 growth rate because you would be cutting into some of
6 the capital, the growth stock that we need to build up
7 for long-term sustention.

8 So under those conditions of non-normal
9 forest, the growth and the cut are not necessarily
10 equal, nor is it wise to manage in that fashion.

11 Now, right back to the end where we have
12 a perfectly normal forest, yes, the growth rate and the
13 depletions are the same and if you wish to perpetuate
14 that forest in that condition they should remain the
15 same.

16 And, again, I will refer to: If the
17 circumstances change, as was given in my evidence,
18 again you will need to re-think what is the growth rate
19 of the forest and what is the level of depletions
20 planned to bring the forest to that new desirable
21 situation.

22 MR. CASTRILLI: Q. Would you agree that
23 sustained yield implies continuous production with the
24 aim of achieving at the earliest practicable time and
25 at the highest practicable level an approximate balance

between net growth and harvest either annually or over longer periods?

3 DR. OSBORN: A. Yes.

4 MR. CASTRILLI: I might as well get this
5 on the record. This is the next exhibit, Mr. Chairman.

6 THE CHAIRMAN: Is that the same, Dr.
7 Osborn, as trying to achieve the normal forest?

8 DR. OSBORN: In that that is really why I
9 didn't belabour it, Mr. Chairman, because the answer to
10 the question is, yes, presupposing that we are looking
11 for this stable structure of a normal forest with no
12 changes intended. And I think over the last ten
13 minutes I demonstrated how I would walk away from that
14 under certain circumstances.

15 MR. CASTRILLI: Mr. Chairman, the next
16 exhibit is excerpts from the Brodie Study Unit, which I
17 have already given notice of.

THE CHAIRMAN: Exhibit 109.

21 MR. CASTRILLI: Q. Dr. Osborn, on the
22 top of page 194 of Exhibit 109, you see the definition
23 given by Mr. Brodie in his Report on Forestry in 1967.
24 Mr. Brodie was a Canadian; was he not?

25 DR. OSBORN: A. I believe so.

1 Q. I refer you again to Exhibit 105, it
2 is the Kenneth Davis report or text, page 6.

3 I would ask you to look at the definition
4 of sustained yield management as defined by the Society
5 of American Foresters which appears at the bottom of
6 page 6 of Exhibit 105 and compare it with the
7 definition of sustained yield management which appears
8 in Exhibit 109, page 194.

9 Are they not substantially the same?

10 A. I believe so.

11 Q. Thank you. So there is no difference
12 between Canadian and American foresters with respect to
13 the definition of sustained yield management; is there?

14 A. That is an extrapolation of the two
15 pieces of evidence you just presented.

16 Q. Well, are there any other definitions
17 of sustained yield management--

18 A. Yes.

19 Q. --that you produced in your
20 documentation other than the Kenneth Davis quote--

21 A. No, I did not.

22 Q. --to support your position?

23 A. No, I used the one that was cited
24 from Kenneth Davis' Report of 1966.

25 Q. Who also says the same thing as

1 Lawrence Davis, the Terminology of Forest Science,
2 Kennedy and Brodie; is that correct?

3 A. They are all very similar, the words
4 are slightly different, the emphasis on different parts
5 varies. As I said about 20 minutes ago, the definition
6 of sustained yield, the exact wording has been hammered
7 around in different professional forestry societies for
8 at least a century to try and find a set of English
9 words that exactly describe the entire set of
10 circumstances.

11 And unfortunately, the English language
12 doesn't quite go that explicitly.

13 THE CHAIRMAN: Mr. Castrilli, doesn't the
14 second full paragraph on page 194, as it goes over to
15 the top of page 195, proximate somewhat of what Dr.
16 Osborn has been saying in terms of the maximum
17 allowable cut which may not be equal to the growth?

18 MR. CASTRILLI: I am going to be dealing
19 with that in a moment, Mr. Chairman. So perhaps if I
20 proceed that will come out.

21 THE CHAIRMAN: Okay.

22 MR. CASTRILLI: Q. Now, at the top of
23 page 195 in Exhibit 109, Mr. Brodie says:

24 "It seems probable, however, from the
25 projections of roundwood demands in this

1 report, that the normal allowable cut
2 will be sufficient for most of Ontario
3 until about the year 2000."

6 A. I am sorry, could you --

7 MR. FREIDIN: Could you repeat where you
8 are reading from?

9 MR. CASTRILLI: The top of page 195 of
10 109.

16 DR. OSBORN: A. On page 194, which you
17 quickly glossed over, the second paragraph states:

18 "The sustained yield allowable cut may be
19 calculated by any one of several methods
20 of formulae, but basically the cut is
21 dependent over the long term on the
22 growing stock or forest inventory."

23 So the structure and the age-class
24 distribution of that forest inventory Mr. Brodie
25 recognizes as playing an impact on the actual values

1 that are generated in the formulae that are used for
2 the calculation.

3 Now, to come back to your question. The
4 inference from the top of page 195 is that if you
5 follow the definition that Mr. Brodie had and that
6 reads that that normal cut as based upon that
7 definition would appear to be sufficient for most of
8 Ontario until the year 2000, is what he states.

9 Q. In other words, you cut what grows,
10 and that's what he is saying at the top of page 195.

11 A. That's the inference, yes.

12 Q. Thank you.

13 Now, I would like to come back to page
14 19. Examination-in-chief on June 27th, you testified
15 that paragraph 5 on that page, which is from the Crown
16 Timber Act, Section 6(2), which essentially says that
17 growth of the forest in cutting should be approximately
18 the same, was a literal definition of sustained yield
19 management based on the normal forest; is that correct?

20 A. Correct.

21 Q. And I believe your testimony was that
22 paragraph 6 was - which is the part of the Davis quote
23 you chose - was the practical definition of sustained
24 yield management and was not so constraining and was
25 generally preferred by the Ministry of Natural

1 Resources; is that correct?

2 A. It recognized the initial variation
3 that may occur between growth and depletion when the
4 forest was in a non-normal set of conditions which was
5 not recognized by the statement given in paragraph 5.

6 Q. Which of the two are practised on
7 forest management agreement areas in Ontario?

8 A. Not having reviewed the FMA documents
9 I can't comment, but I am assuming that it is an
10 assumption, that the second, that given in paragraph 6.

11 Q. You assume paragraph 6 is what is
12 done in Ontario?

13 A. Yes, because of the maximum allowable
14 depletion calculation procedure that was described
15 yesterday.

16 Q. Dr. Osborn, I would like to refer you
17 to the entirety of Section 6(2) of the Crown Timber
18 Act.

19 MR. CASTRILLI: (handed)

20 THE CHAIRMAN: Thank you. Exhibit 110.

21 ---EXHIBIT NO. 110: Two-page excerpt of Section 6(2)
22 of the Crown Timber Act.

23 MR. CASTRILLI: Now, let's turn to page 6
24 of Exhibit 110 which is where the entirety of Section
25 6(2) of the Crown Timber Act appears. It says:

1 "In subsection (1), the expression
2 'sustain yield' means..." and it goes on
3 to quote what appears in paragraph 5 of your evidence."

4 Now, I would like to direct your
5 attention to subsection 6(1) which appears at page 5 of
6 Exhibit 110. It says there that:

7 "...the Minister may enter into..."
8 a forest management: "...agreement with
9 any person for the management of Crown
10 timber on a sustained yield basis..."

11 And, of course, the definition of
12 sustained yield is the one that appears and is found in
13 Section 6(2) of the Crown Timber Act which is found at
14 paragraph 5 of your evidence and not the definition
15 that appears at paragraph 6 of your evidence; is that
16 correct?

17 A. That's correct.

18 Q. Now, is it your testimony that the
19 Minister of Natural Resources is entering into forest
20 management agreements with industry for timber
21 management on Crown lands on other than the sustained
22 yield basis defined in Section 6(2) of the Crown Timber
23 Act?

24 A. No.

25 Q. Well, didn't you just tell me a

1 moment ago that what is being practised in Ontario is
2 not paragraph 5 but paragraph 6.

3 Do you recall that testimony?

4 A. Yes.

5 Q. So what in fact is taking place on
6 forest management agreement areas, Dr. Osborn?

7 A. What is in 5 in the long term -- what
8 is in paragraph 5, in the long term, under the set of
9 circumstances where that is the appropriate definition.

10 Q. There is only one definition in the
11 Crown Timber Act. The definition is: you cut what
12 grows. Is that not right?

13 A. Yes.

14 Q. So what is taking place on forest
15 management agreement areas?

16 THE CHAIRMAN: This is a fair question,
17 Mr. Freidin. I think the witness should answer that
18 question.

19 DR. OSBORN: I will get it.

20 The way that the maximum allowable
21 depletion is calculated, as was explained yesterday,
22 infers that in the planning period, when the forest is
23 not normal, the actual maximum allowable depletion
24 calculated may differ from the growth.

25 So, in answer to your question, in some

1 planning periods when the forest is irregular in
2 distribution, the actual planning period's depletion
3 calculation may or may not be exactly equal to the
4 growth.

5 THE CHAIRMAN: If that is the case, is it
6 not in breach of this statutory provision?

7 MR. FREIDIN: Well, I think that is a
8 question of law and I'm not sure this witness is
9 qualified to answer that, Mr. Chairman.

10 THE CHAIRMAN: Well, that is probably
11 correct, Mr. Freidin.

12 MR. FREIDIN: I wish to indicate that the
13 position of the Ministry in terms of that legal
14 question that by practising sustained yield management
15 in the manner in which has been described by Dr. Osborn
16 is not in contravention of the Act, that the words in
17 paragraph 5 of the Crown Timber Act must be given
18 interpretation within the context in which they are
19 found and must be given a definition which has some
20 practical meaning in order to, in fact, achieve the
21 purpose of the Crown Timber Act.

22 And it is our submission, therefore, that
23 there is no inconsistency with the evidence in the
24 definition.

25 THE CHAIRMAN: Okay. Well, perhaps, this

1 is a matter that should better be left to argument at
2 the end.

3 I do not think, Mr. Castrilli, other than
4 the fact that you have pointed out what the definition
5 is in the statute and this witness has pointed what in
6 actual fact happens in Ontario, will leave you with
7 much room to go much further.

8 Inferences can be drawn and, I suppose,
9 it can be argued later on as to what the statute means.

10 MR. CASTRILLI: Thank you.

11 I actually have pretty much finished this
12 section. I just have one further question with respect
13 to this matter.

14 Mr. Chairman, I would like some guidance
15 from you. When was the Board intending to rise today?

16 THE CHAIRMAN: Well, how much more have
17 you got to complete a section or some division in your
18 cross-examination, if it is so divided?

19 MR. CASTRILLI: Well, we are close to --
20 we have essentially reached a reasonable place to stop.
21 The next part is fairly substantial.

22 THE CHAIRMAN: All right. And are you
23 still forecasting about two and a half days?

24 MR. CASTRILLI: Yes. I just have the one
25 question left for Dr. Osborn...

1 THE CHAIRMAN: All right. We will
2 complete your one question and then we will well break
3 for the day.

4 MR. CASTRILLI: Q. Dr. Osborn, so that I
5 am clear on the practice on Crown management units, to
6 the extent you know it -- well, perhaps let me just ask
7 this of you at the policy level: The question of
8 variable levels, how variable is the Ministry of
9 Natural Resources prepared to see sustained yield
10 management be on a 1, 5, or 20-year horizon?

11 DR. OSBORN: A. Under the literal
12 definition in paragraph 5 of the meaning sustained
13 yield, I am not sure I can answer that question.

14 With regard to the calculation procedure
15 that was described yesterday, there are some stipulated
16 limits as to regards the upper and lower level of the
17 maximum allowable depletion that is normally -- I
18 hesitate to use the word accepted because I am not
19 quite sure - but there are certainly some guidelines
20 that above and below that calculated maximum allowable
21 depletion, there are some defined limits and there is
22 some explanation and rationale as to whether or not
23 even those limits may or may not be exceeded.

24 Q. Now, you have just referred to
25 guidelines and defined limits. Are you referring to

1 this in the context of a document?

2 A. Okay. And this is really why I
3 hesitate because I am not intimately familiar with the
4 Timber Management Planning Manual, but I step back in
5 time, in the maximum depletion calculation there used
6 to be some defined numerical upper and lower bounds and
7 there was a need for explanation should those upper and
8 lower bounds be exceeded or the values went underneath
9 there.

10 Q. So, is it your testimony that you
11 believe they were in -- they are in the current Timber
12 Management Planning Manual?

13 A. I believe they are. They were in one
14 of its predecessors. That's really why -- with which I
15 have had some familiarity, but this particular Exhibit
16 7, the exact operating specifics I am not certain of.

17 Q. Whether or not they are in the
18 current version of the manual, would the limits that
19 actually appeared in previous manuals continue to
20 apply, or the upper and lower bounds, if you like?

21 A. Again, as far as I know, the answer
22 is yes. The concept was, there was a calculated value,
23 there was a recognition of a range about that value,
24 and there was a need for explanation should that range
25 be exceeded.

1 Q. Could I ask you - we are probably at
2 the appropriate place for a break for the day - if you
3 would undertake to provide whatever it is you are
4 referring to with respect to the upper and lower
5 guidelines, or upper and lower limits?

6 A. All right. Let me help you a little
7 bit.

8 Q. Or at least refer me to where they
9 exist.

10 A. All right. There was, there is - or
11 was now, a manual for management planning that was
12 written specifically for the forest management
13 agreement areas. The document was written in 1980.

14 Q. So it is the forest management manual
15 for 1980?

16 A. Correct.

17 Q. Oh, all right.

18 A. And within that document there was a
19 stipulation as to the upper and lower limits within a
20 calculated maximum allowable depletion in a planning
21 period.

22 Q. And your understanding is that it
23 continues to apply, notwithstanding it's not in the
24 current manual?

25 A. That's my understanding. But exactly

1 where and exactly to what extent, I am not certain
2 without looking at the manual, that's all.

3 Q. Could I ask you then to simply
4 confirm whether your understanding is still correct.

5 A. I can so do.

6 Q. And advise the Board?

7 A. I can do so.

8 MR. CASTRILLI: Thank you. Those are my
9 questions for the day.

10 THE CHAIRMAN: Thank you, Mr. Castrilli.

11 Very well, ladies and gentlemen, we will
12 adjourn until tomorrow morning at 9:30.

13 Thank you.

14 ---Whereupon the hearing adjourned at 5:00 p.m., to
15 reconvene, Wednesday, June 6th, 1988, commencing at
9:30 a.m.

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